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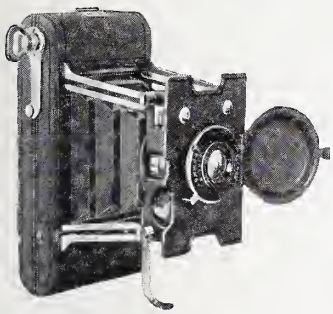

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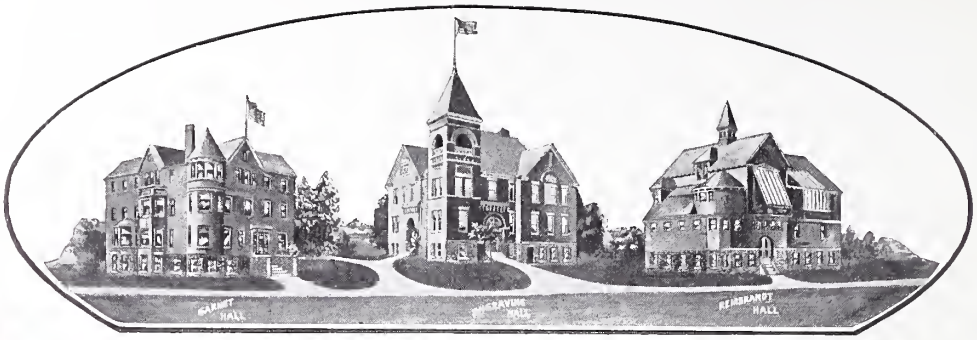

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Water	40 ounces
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	Sodium sulphite, dry	2 ounces
C:	Water	15 ounces
	Sodium carbonate	2 ounces

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Sodium carbonate, dry	3 pounds
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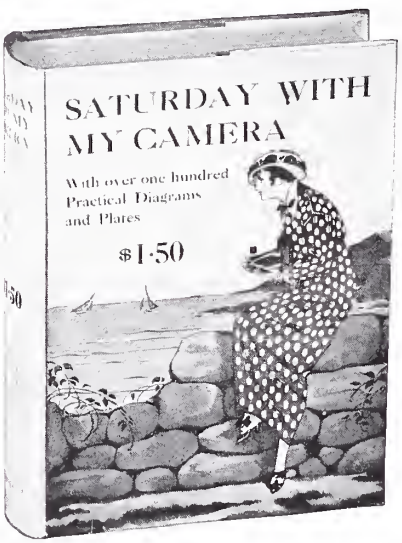

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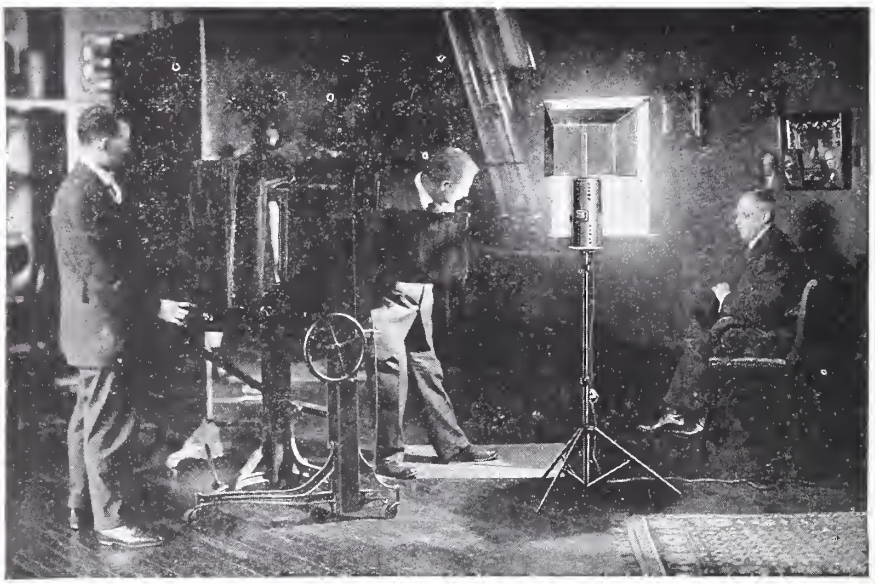

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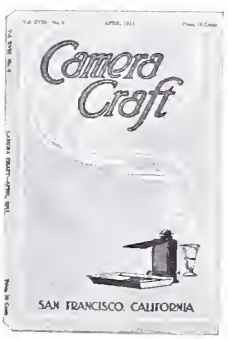

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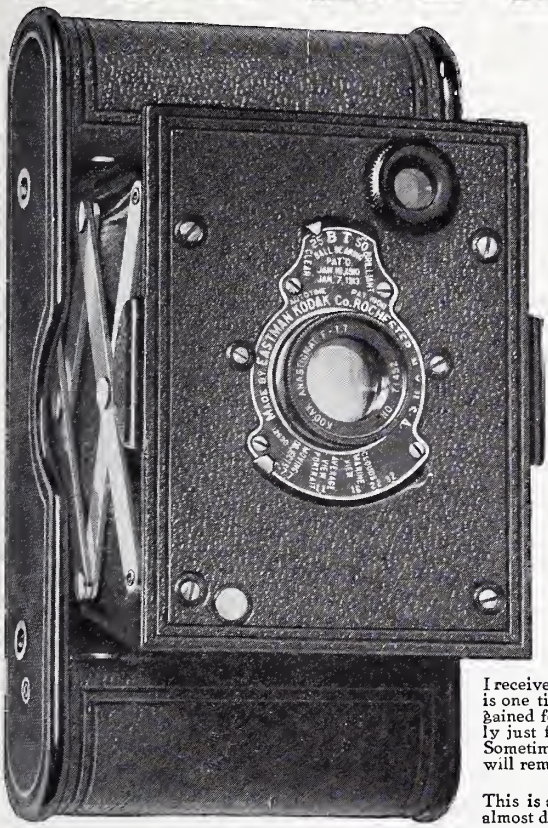

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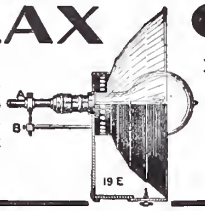

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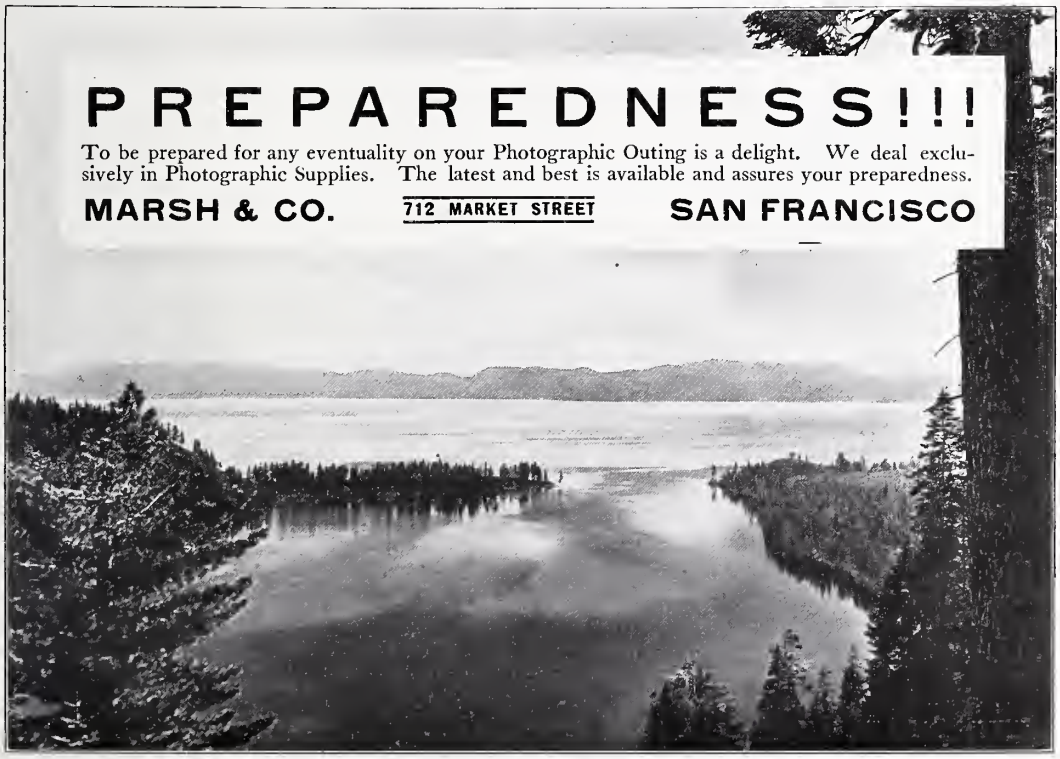

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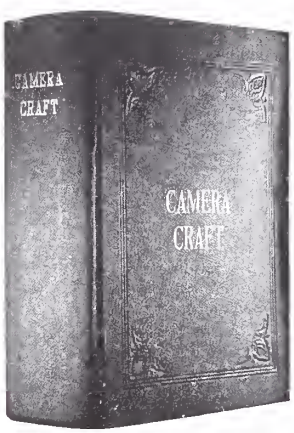

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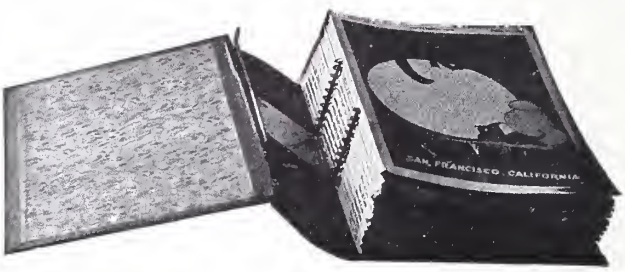

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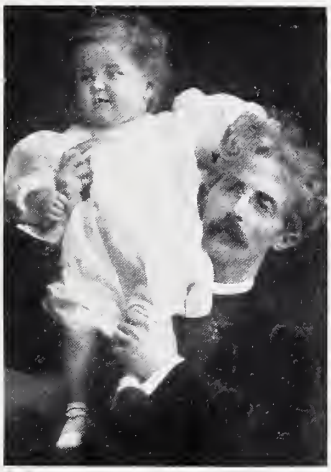

CAMERA CRAFT

A Photographic Monthly

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CONTENTS FOR AUGUST, 1916

A Song of the Sea (Frontispiece) ..... Hal G. Hall
The Kind They Do Not Want ..... Harry F. Blanchard 303
Plate Mark Effects on Mounts or Prints ..... Charles A. Harris 307
Daylight Motion Picture Work ..... Frank B. Howe 311
My Album and Film File ..... C. R. Lowe 316
How to Make Lantern Slides ..... Wallace S. Allen 319
Paragraphs Photographic 326
Toning Bromides with Platinum—To Keep Prints from Curling—A Tank Utility—Squeegee Plates—The Position of the Head—A Low Tripod—Treatment for Blisters—Pen and Ink Sketches—Increasing Gradation.
Editorials 329
Our New Department—Our Farm Paper Competition—Goods that are Not Advertised—The Eleventh Annual Wanamaker Exhibition.
A Photographic Digest 331
The Studio Vignetter—Detecting Faked Photographs—The Stanhope Lens—Vignette Enlargements—The Retouching Desk—Printing in Sun and Shade—Opaque Blacks—Opaques for Blocking Out.
The Cameraman's Page 335
Introduction—Speed and Distance—Better Photography Too—Dissolves—Masking a Lens.
The Amateur and His Troubles 337
Photographing Against the Sun—Transferring Prints to Cloth—That "Camera Wants" Department—Using the Glass Cutter—Make Some Dust Scenes—Shutter Jar.
International Photographic Association 339
Our Book Shelves 340
Notes and Comment 341

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CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor

CLAUS SPRECKELS BLDG. SAN FRANCISCO CALIFORNIA

VOL. XXIII AUGUST, 1916 No. 8

The Kind They Do Not Want

By Harry F. Blanchard

With Illustrations by the Author

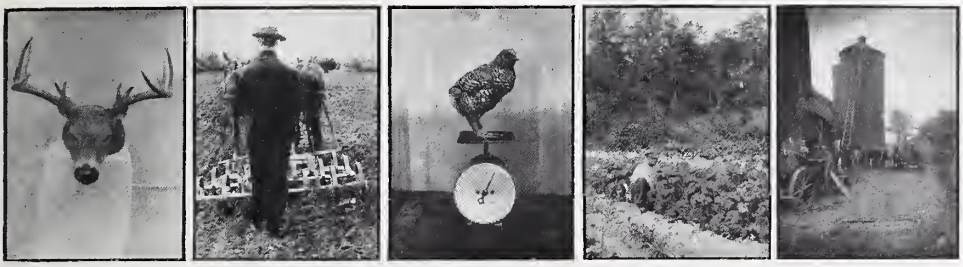
It stands, as a matter of fact, that the average amateur photographer has no definite idea as to the particular kind of pictures the farm paper editors want for their cover illustrations. This is proven by the photographs sent in, as they are usually of a very poor class; and, on an average, not more than one out of every twenty-five of such submitted photographs can even be considered for the purpose. I am basing this statement on my own experiences in trying to secure such pictures from others. Some time ago a certain farm paper inaugurated a photographic competition that resulted in over four thousand prints being sent in by its readers. Of course, no particular kind of picture being specified, the range of subjects was such that only a few were expected to be of purely farm interest. However, just one out of the entire number was found suitable for a cover illustration.

Quite naturally, I have often been asked what kind of a picture I wanted for a farm paper cover illustration; and, as it seems practically impossible for me to explain the matter in words so that the average amateur can grasp the idea, I will, with the editor's permission, show and comment upon a few examples quite typical of those offered, but unsuited to the purpose.

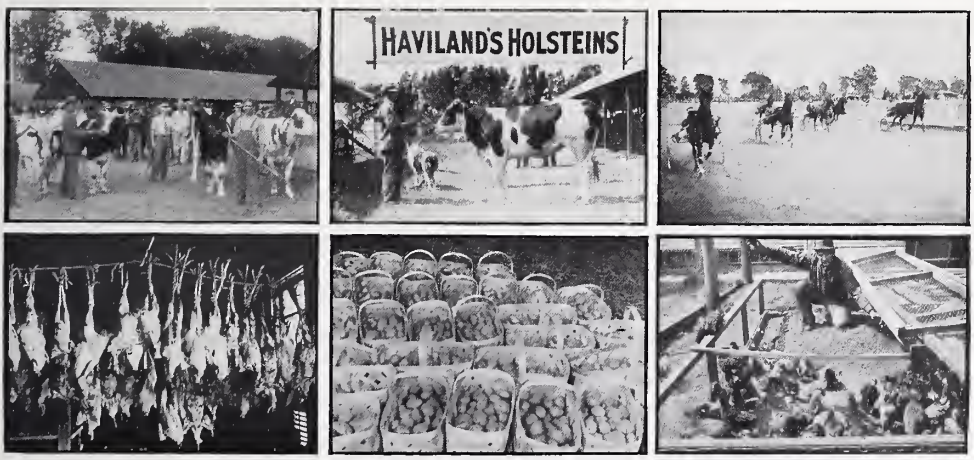
In the first place, one must, in getting up a front cover illustration, make sure that it has some story telling quality. It must not only be a story telling picture, but it must, in addition to being of upright form, be very sharp and clear, have the figures or the main objects stand out from the background in good relief, rather bold, and of fair size. Taking the examples shown in the

first illustration, while they are all taken the proper way of the plate and satisfy some of the other conditions just mentioned, still, they would not make good cover illustrations for a first class farm publication. The deer head, while quite typical of pictures frequently submitted, would not find a place on a farm paper cover once in a thousand times, simply because it has practically nothing to do with farm life, although it might be acceptable to a trapping and hunting journal. The picture of the man with the spring tooth harrow shows a farm subject and might be used on an inside page to illustrate an article on cultivation, but for a cover picture it is out of the question. The team and not the man's back, is the most interesting, and the horses should have been shown coming toward the observer at an angle of about forty-five degrees. The broiler on the scales is very poor because the bird is hunched up and has not a good pose, while the subject itself is not sufficiently interesting. The picture showing the row of Scotch Kale is a very good one for an inside illustration for some sort of an article about this particular kind of garden truck or green, as it pre-

sents a close view of the plants. As a cover illustration the subject and the background are too near alike in appearance and would seem even more so when reproduced in half-tone. By using the side swing of the camera and a large stop, the diagonal row of kale might have been kept in good focus and the background softened. Then, by getting a little closer and having the figure posed in a more obviously natural position, a satisfactory picture might have resulted. The picture of the silo could perhaps find a place on the cover of some rural publication, but as a good. story telling picture it is out of the question. In the first place the figures are too small and indistinct and they have all stopped working to look directly at the camera. Even did this not spoil it as a good cover illustration one can see that the whole effect is rather jumbled with the wagons and barn showing at the left and the old shed in the right, while the subject itself occupies only a small part of the picture space. This subject could have been taken in such a way as to make a satisfactory cover picture if the camera had been closer so that the silo, the ensilage cutter, the men and the horses nearly filled the plate. It is well to remember that in taking pictures of tall objects the front board of the camera should be raised as high as possible to avoid too much foreground while keeping the camera back perpendicular will keep such subjects from looking as if they were falling over.



The picture of the dressed hogs is entirely unsuited, as they do not make an attractive picture. A typical farm scene, portraying a farmer and his son busy with the butchering of a hog in a neat and workmanlike manner, could be made acceptable. The picture of the cows coming out of the field is blurred, made the wrong way of the plate, and taken just a little too late for a good arrangement. The picture of the four bulls, like all these last, is taken the wrong way of the plate. It shows quite a number of the most common faults that characterize a good part of the photographs sent in to the editors. The animals are not well posed, everybody is busy watching the camera, and in addition to the arrangement being jumbled, the photograph itself is not clear enough, main objects and the background seeming to blend into each other, thereby adding to the confusion. Three or four of the characteristic figures shown, standing beside one of the animals as if discussing its merits, and taken the right way of the plate, might have made a good picture with some story telling quality. The picture of Haviland's Holsteins is a fairly clear one with the animal well posed for a catalogue or other selling picture, but the banner spoils it for a cover illustration. This picture might be doctored up and given a different appearance by the half-tone maker. He could paint out the banner, leaving an expanse of sky at the top and then, by trimming the sides, cut off the man and most of the sheds, making it into an upright picture that might possibly serve our purpose. However, the more work that has to be done on a print the more likely it is to get turned down by the editor. Enlarged, and with the ends and the empty foreground trimmed off, the central portion of the



picture of the horses trotting might possibly find a place on a farm paper cover, as it is quite sharp and clear. The severe trimming is necessary in order to get the remaining horses large enough in proportion to the picture space. Like the last, the selected portion could be made upright by the engraver adding more sky above. The remaining three, namely, the dressed chickens, the baskets of potatoes and the man and chickens are not at all suitable, although they might serve admirably as illustrations for articles dealing with the subjects shown.

There is really not a single story telling picture in the lot, although the material in each could be used quite effectively had the photographer given the matter a little thought. Take what is perhaps the most unpromising of them all, the deer's head. Instead of arranging it on a soap box covered with a sheet, the photographer might have fixed it temporarily over a barn door or against a wall just inside, and then posed an elderly man as telling a group of youngsters just how he shot the animal years ago when deer roamed the adjacent hills. To secure the farm flavor there could be a few farm animals, implements or farm products in evidence, although they should not look as if dragged into the picture for that purpose. Again, one might, with a model having some idea of the requirements, picture a small boy as "playing hunter" and carefully "drawing a bead" on the helpless prey with his "make believe" gun, from behind a "cover" conveniently provided by a box or barrel. With his pet dog crouched at his side an added interest and effectiveness would be secured. If the photographer understands the making of good flashlight pictures, the deer's head over a fireplace, if one were available, would be a still better position and one allowing of even more effective grouping of the few figures required. The good housewife, while engaged in knitting, peeling apples, or some other simple task, might be pictured as looking up at it and telling a child at her knee its history.

However, this article is not intended to suggest pictures but to give the reader some idea as to the kind that are not acceptable as cover pictures for farm publications. If he will try and avoid sending similar work to the editors he will save time and trouble, as well as dollars, and these mean a whole lot to most of us. To repeat, in the hope of emphasizing, try to make every picture a story telling one, have the principal figures or objects of fair size, sharp and clear; and, if possible, make them upright in form. Avoid, for obvious reasons, suggesting that farm life is other than interesting and enjoyable by avoiding such subjects. Avoid stiff poses, do not let subjects look at the camera, keep the principal object clear of the background, and be sure that the subject is really a rural one. Do this and you will be bound to find a market for all the good subjects you can produce. There is endless material right at our doors and all that is required, in addition to ordinary photographic skill, is the ability to think out a few good situations and the wit to arrange the figures in such a way that the idea is carried out.

If the artist be possessed of thoughts, it should make little difference how he expresses them, so that he really does set them fully before us.—JOHN C. VAN DYKE.

Plate Mark Effects on Mounts or Prints

By Charles A. Harris

With Illustrations by the Author

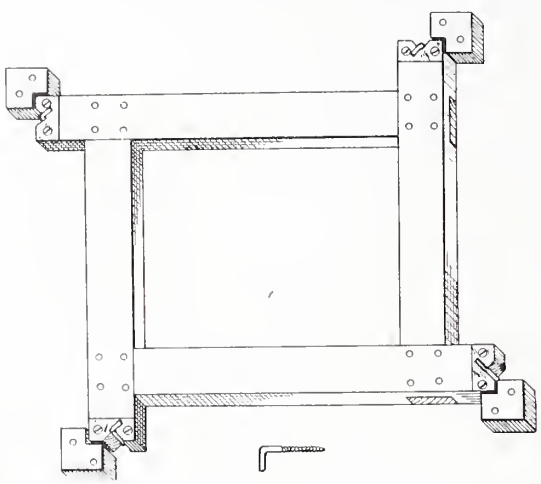
As I do not recall having seen anything relating to a home-made device for producing the plate mark or countersunk effects on mounts or prints that afford such a desirable variation from the usual finish, I am sending a sketch showing the one I employ in my own work. This frame is used in connection with a hardwood impression block and a cardboard mask to be used underneath the mount or print to be countersunk. A more simple way of securing the plate-mark effect, more or less satisfactory, is to place a piece of cardboard of the desired shape and size upon the mount with several thicknesses of blotting paper underneath and subject the whole to pressure in a letter press. However, if one desires to secure a more pronounced effect, or if certain grades of tough mounting stock are to be used, the following procedure will be found to not only cover the requirements more fully and satisfactorily, but permit one to produce several different effects.

As in the case of the domestic cook book, suppose we begin by enumerating and describing the ingredients. First: A perfectly flat board about one and one-quarter inches thick and about the size of a bread board, for the foundation. Two boards, each five-eighths inch thick, may be nailed together with the grain crosswise, to give the desired thickness and also minimize the danger of warping.

Second: A block of fine-grained hardwood, two inches thick, and of a length and width to accommodate the impression desired. As with the other, two pieces, each one inch thick, can be screwed or nailed together, if necessary. Assuming that we are considering a 5x7 print, the block should measure 6x8 inches, which will leave a half-inch margin all around. The size of this block

TWO EXAMPLES OF PLATE SUNK MOUNTS

can, of course, be varied, depending upon the size of the print and width of border desired. The surface of this block, the one used for making the countersunk impression, must obviously be a true rectangle and perfectly plane, and care should be used to give it sharp, straight edges, free from nicks or defects; and, during use, this condition should be preserved. If desired, the corners of this block, and also those of the cut-out, may be slightly rounded; the effect is pleasing. Cut a groove on two opposite sides of the block, near the top, for a hand hold. If the block is a large one, a piece of wood nailed to its upper surface will serve the same purpose.



Third: Four strips of three-quarter-inch wood, three inches wide and about eighteen inches long. With these is formed the frame shown in the sketch; so constructed as to snugly fit the impression block, permitting of no lateral motion. The corners are made flush by cutting away one-half of each strip where they come together. A notch is cut in each of the four projecting ends, as shown, for the better accommodation of the angle screws used to clamp the frame down. A piece of sheet brass across each of these ends will prevent abrasion of the wood by these screws. The length of these ends should be such as to accommodate any size of mount, but for utility they should be as short as permissible. The four triangular corner blocks are guides nailed to the foundation board and act as guides to insure correct register, while leaving the frame free to be removed for adjustment of the mount.

Fourth: Provide, if not at hand, several sheets of good quality, plain mounting board of two different weights, the heavier about one-sixteenth inch thick and the other somewhat less. For experimental purposes I have employed the cardboard of boxes such as the dealers use for containers in sending out pies and cakes, securing the desired thickness by pasting two or more together. However, a good, hard texture cardboard gives better results. The mask is made by placing the impression block in the center of the card and marking around it with a fine-pointed pencil and then, with a sharp knife, cutting out the center by following on this line. So doing should produce a mask with an opening into which the block just comfortably fits. This is the procedure for a thin mask to be used in operating upon thin mount or paper print or mounting paper. Heavier or very rough mounting stock will require a thicker mask and possibly a little more play between the sides of the block and the inner edges of the mask. Experiment until the adjustment is right.

To assemble the machine: First, tack one or two sheets of plain cardboard, the size of the largest mount to be handled, to the foundation board. Next,

WHERE THE MOONBEAMS POINT THE WAY

WHERE THE ROADWAY SKIRTS THE SEA

place thereon the mask, and if this last is a little longer, one way, than the cardboard underneath, it can, when made in register with the block, be tacked directly upon the foundation board. The mount is then placed in position. As a guide in centering the mount, the mask should have marked off, on a line extending outward from the center of each side, inches, halves and quarters, these divisions numbered from the opening outward. The frame then takes its fixed position on the mount, as regulated by the four corner blocks, and is firmly clamped down. With the mask in perfect register and tacked in place, all is ready for the go-ahead bell. To secure the necessary pressure, use a strong piece of wood, several feet in length, as a lever. A block of wood nailed to the wall serves as a fulcrum for one end, or that end can be permanently attached to the workbench with a strong strap hinge, permitting the lever to be turned up out of the way when not in use. To test for proper working, use some sheets of heavy brown wrapping paper. If the finished work shows a tendency to wrinkle at the corners, and with most material it will, dampen the back of the mount or print with a wad of cotton moistened in a mixture of equal parts of water and alcohol.

It will be seen that all this is simply employing the principle of the matrix and permits of other effects being easily produced by the ingenious. For example, a second or impressed border can be made to surround the central portion, both at one operation. A bevel effect is obtained as follows: Make a second impression block, not necessarily of hardwood, the same dimensions as the first. Then make a mask with an opening one-half inch narrower and one-half inch less in length than the impression surface of the block. Otherwise stated, cut the mask opening of such a size that the block will measure one-quarter inch larger on each of the four sides. Take the piece of cardboard cut from the center of the mask and trim about one-eighth inch off two sides; then tack it in the center of the new block. The one-quarter inch margin of the block all around the sides of the tacked-on cut-out should be slightly beveled to prevent marks where not wanted. This should produce the effect required. As will be observed, the block with its inner cardboard face, when making the impression, brings a pressure to bear on the upper and outer edge of the bevel, which is thus more clearly defined. This block, on account of its cardboard surface, will not continue to give a clean-cut impression to the same extent as the first one described.

It is easy to see that one may add to the variety of effects secured by utilizing the same general method, namely, a design or mould as represented by the cardboard mask, in connection with a block having its surface so prepared as to match the portions of mask that have been cut out.

To be honest, to be kind; to earn a little and spend a little less; to make the whole family happier for his presence; to renounce, when that shall be necessary, and not to be embittered; to keep a few friends, but these without capitulation; above all, on the same grim condition, to keep friends with himself —here is a task for all that man has of fortitude and delicacy.—Robert Louis Stevenson.

D. W. Griffith, the Screen's Master Producer (left), and His Camera-Man, George W. Bitzer (center), in Action

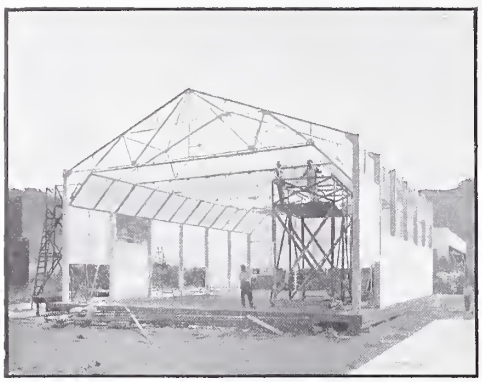
Daylight Motion Picture Work

By Frank B. Howe

Illustrated by the Author and Leading Studios

The work of making motion pictures, using daylight as the illuminant, may be divided into three classes. To the first belongs that done on the stage at the studio and comprising all indoor scenes or those supposed to depict some interior such as a room of a house or the like. The second includes what is known as location work; that is, scenes created by taking the company to some suitable, previously located natural setting, and making what is wanted by using the exteriors of real houses, everyday street scenes and other outdoor settings such as the locality affords. The third class involves the use of large exterior settings, generally erected at the studio, representing castles, street scenes, and the like, of another period or different location. The Lasky Company's street scene in the Bowery, reproduced herewith, is an example.

As the reader can easily realize, it is practically impossible to use real rooms in real houses and similar interiors for the production of motion picture scenes, through the difficulty of securing sufficient illumination therein, even were it possible to find exactly the required setting, and further, because of the difficulty that would be experienced in securing the use of such interiors even if they were found and the lighting requirements met. It therefore becomes necessary to erect the "sets" and assemble the furnishing of the required rooms and interiors. These are erected on a large floor or stage, above which is suspended, at a height of perhaps thirty feet, a canopy of cloth frames or diffusers, to soften



JOKER COMEDY COMPANY STAGE

THE RANCH STAGE, UNIVERSAL CITY

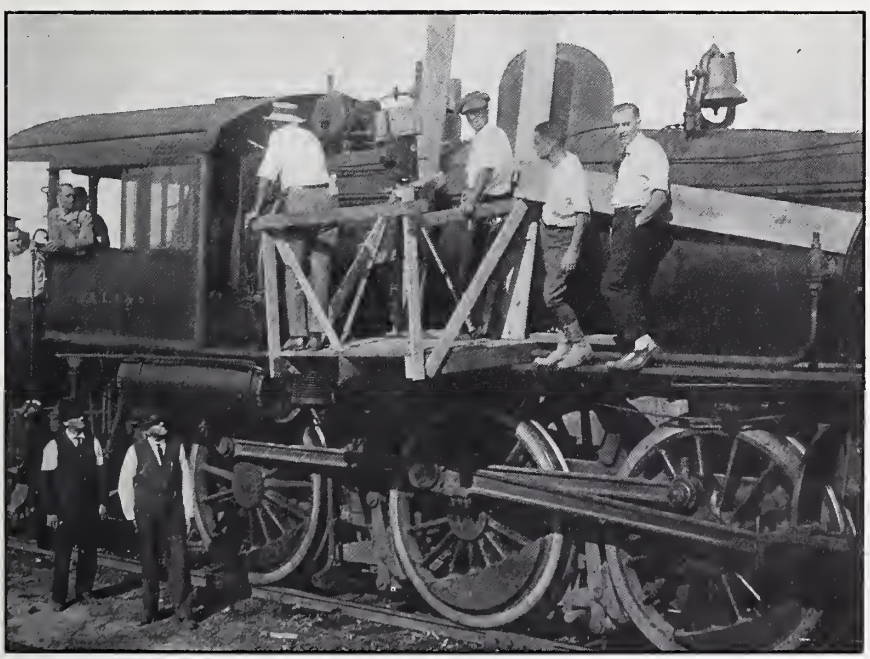
Photographs by courtesy of Universal Film Manufacturing Company

the rays of the sun and admit, as nearly as possible, a perfect light for photography. This arrangement of screens is used in practically the same way as are the curtains over the skylights in studio portraiture. The cloth-covered frames are so arranged that they can be shifted at will, thereby permitting perfect control of the amount of light admitted to the scene below. Upon the stage are erected the sets, or scenery representing the desired interior. Sets for interior scenes are erected, ceilingless and with but three walls, the camera being on the fourth or open side. This permits the proper lighting for the picture to come in unobstructed except by the diffusers above. In these sets are placed the furniture and other properties necessary for the particular scene being "filmed." In the properties employed white is used as little as possible in order to avoid the effect of halation and assure good detail by substituting a certain buff or light yellow tint which photographs white and at the same time shows good detail in such articles as tablecloths, curtains, and the like, the use of this color being extended even to the clothing and costumes of the actors as much as possible.

When all is ready with the sets in position and the props in place, the company appears and makes preparations for the scene. The camera-man places the camera at the proper place and focuses while the director explains to the players the action of the scene. The camera-man lays off the camera or side lines, generally imaginary, but sometimes drawn with chalk, radiating from the camera, outside of which the players must not go except as they pass out of the picture. While this is being done, the players rehearse the scene until it is done to the satisfaction of the director. When the scene is ready to be photographed, the camera-man writes the number, as it appears in the scenario, in chalk, on a piece of black cardboard, and photographs this, making a few feet of film to immediately precede the scene, so that each particular scene can be identified when they are cut apart. He also makes a cut in the edge of the film before the scene is taken so that it may be cut apart and developed separately to guard against variance in exposure. This done, the director gives the order for action to start, calls for "camera" and the scene is photographed. If the action throughout is to the satisfaction of the director, the scene is done, but if something is not exactly right or not to his liking, it must be repeated and a "retake"

D. W. GRIFFITH AT WORK By FINE ARTS STUDIO

is made, until the scene is played successfully. The director is the master mind behind the production. Mr. D. W. Griffith, now the head of the Fine Arts Film Company, is shown in action in the heading of this article. He is recognized as the screen's master producer, and it is to him that we are indebted for "The Birth of a Nation" and other like plays. He is also responsible for the



TAKING A SCENE FOR "MOTHER OF SEVEN"—FINE ARTS STUDIO

invention and introduction of many of the effects now commonly used, including the "close up," the "cut-back," and the "fade-out."

Should there be required a "vision" or some similar effect, recourse is had to double exposure, the first being on the scene in the usual manner, after which the film is turned back the noted number of feet and the "vision" photographed against a black background, the result showing the well-known effect that is somewhat mystifying to the uninitiated. Again, should one actor be playing two different parts and in one or more scenes it be necessary for him to appear as both characters, half the lens is covered up and one side of the scene taken, the "footage" or length of film used being noted at the various places where the action changes. The camera-man then turns back the film, changes the cover over the lens, the actor assumes his second character, moves over to the opposite side of the set and the other half of the scene is taken. As may be imagined, it is extremely difficult to have the actions of two characters come at the proper time, as for example, where the two characters carry on a conversation or perform similar related actions. Success in this rendition of one actor appearing as two different characters in the same scene is only achieved by the careful notation of just where each action occurs; that is, just how many feet of film are out, so that the footage used in making the second exposure may be watched and the actions kept in unison.

One particular scene being finished, any others requiring the same set are then taken, regardless of the order in the scenario, as the various scenes are afterwards cut apart and spliced together in their proper order. A set once arranged is immediately used for the necessary number of scenes, and then "struck" or taken down to make room for others. In this way the last scene of a picture is frequently taken before the first has been made and a murdered man frequently expires in more or less agony two or three weeks before the firing of the shot that results so fatally.

After the scene is taken, an ordinary view camera is brought forth and what are called "stills" are made, the players holding some selected tense or thrilling situations while the exposure is made. These are usually on 8x10 plates and the prints are furnished the theaters for lobby display and used by the producer for trade magazine advertising and the like.

Many of the studios are of glass construction, or rather are large stages roofed over with glass, thus permitting the making of scenes in rainy weather when an outdoor stage could not be used. However, working in such a studio is practically the same as on the outdoor stage. Where exterior settings, such as street scenes and the entrances to houses, office buildings, and the like, are required and exactness as to details is not demanded, real scenes can often be located and used. When the director prepares for a given production, he sends his assistant or the "location" man to find places or locations suitable for as many exterior scenes as possible for that particular scenario, and the location man arranges for their use so that there will be no delay when the company appears on the ground to make the different scenes. At the appointed time, in their make-up and costumes, the company take an automobile to the location, the camera is set up, rehearsals are held and the work proceeds as on the stage.

BOWERY STREET SET USED IN LASKY'S PRODUCTION OF "KINDLING"

RED CROSS BAZAAR SETTING FOR LASKY'S PRODUCTION OF "THE CHEAT"

Photographs by courtesy of Jesse L. Lasky, Feature Play Company

No overhead diffusers being possible, in scenes enacted fairly close to the camera and in which the harsh contrast of direct sunlight would be too apparent, a reflector is used. This is merely a framework of white cloth placed, when possible, so that it will throw the light upward from the front or side onto the scene, thereby neutralizing to some extent the harsh contrast. The actual making of the scene is the same as on the stage.

In cases where the proper exterior cannot be found where the company is located, such as castles, palaces, Western street scenes, and the like, or in cases where there are so many and varied scenes to be taken that success would be problematical with the reality, it is necessary that the required set be built. A good example of the latter is the Bowery scene from Lasky's "Kindling," shown herewith. This set, built at the Lasky Studio, has every detail and shows the expense to which this and other leading companies frequently go to secure correct settings and enhance the realism of their productions.

Truly some wonderful things have been done in this construction line, as witness the walls in Griffith's forthcoming "The Mother and the Law," Lasky's innumerable special sets, the Universal's walls of Lucknow Castle, and other elaborate sets from various studios. On the larger ones the use of diffusers is impossible and the taking of the scenes is much the same as in location work.

FINE ARTS FILM COMPANY'S STAFF OF STILL PHOTOGRAPHERS

VIEW OF ONE OF THE FINE ARTS FILM COMPANY'S STAGES

Photographs by courtesy of Fine Arts Film Company

Sometimes high platforms are built for the camera-man in order to get sufficient elevation for the camera to picture the desired scene properly. "Stills" are of course made of all scenes of enough importance to make them of any value, no matter where the action takes place. This covers the general methods of making motion picture by daylight and my next article will have to do with the making of scenes by electric light, a method employed to a greater extent each year.

My Album and Film File

By C. R. Lowe

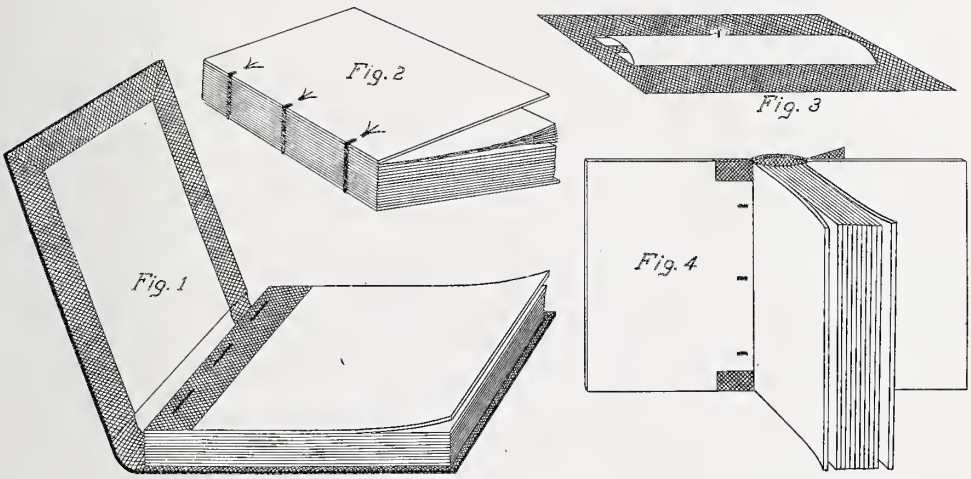
It all came about through my wife and myself beginning to make up our Christmas presents in June. And, by the way, that is a good time to begin, for in our case it was time for them to be sent out but shortly after they were finished. The baby's grandpa says he would not take twenty-five dollars for what we thought would be considered but a little remembrance. Such a stack of unsorted and unclassified negatives as we had to work from! Probably Mr. Reader has seen something of the like, some time, of course never having had one of his own. The rather haphazard combinations in the little albums were fitting examples of the worth of the film filing system. Why do I not change it? Probably because it is now a closed incident.

It was on this wise. I conceived of an album different from any I had ever seen or heard of; and worked out, it is admired by all who have seen it. Not all its contents are pictures, for I have had my troubles, too. The pictures were home pictures made for home folks, and we put in every single picture of that wriggling youngster, even though there is a streak of pyro stain impersonating a dirty face, or a great spot in the middle of the negative that did not get developed because the film was not wound tight enough in the tank. That baby would be a baby but once, and incidentally just a few other things would happen but once, fit subjects besides that firstborn.

The album idea is worth giving away. I was using a 2½x4¼ folding pocket kodak and two of its pictures could be printed on a 5x7 sheet of paper very nicely, with a five-eighths inch margin on three sides and a wider one on the fourth, the left side, or the top of the paper. Instead of selecting the films with regard to their relation to each other, I assembled them in pairs according to their quality, so that the two prints could be made at the same time. To expose first one and then the other did not occur to my ingenious mind until we were pretty nearly through. There were several of these albums to be made; and, as we went along, we made all we thought might be needed. Then, if we later had some new pictures to go in, we made the new pages as we were doing other printing from the same negatives, it being but little extra trouble.

Later these pages were sorted into lots for albums. I had the printer cut some eggshell paper 5x7 and put three of these on the top of the album pages

and as many on the bottom. I had some binder's cloth, which I cut into 2x5 strips, putting one of these under and one over the bunch of leaves, keeping them at the back of the album where the printer next fastened both pages and cloth strips together, using three wire staples. Lastly the printer trimmed the books all around and cut me some cover pieces of binder's board one-quarter inch wider than the book and long enough to reach from the staples to the front of the book. Taking my binder's cloth and cutting a piece 7x16, I measured around the back of the book from staple head on one side to staple clench on the other, added one-quarter inch, and marked a strip that width across the center of the cloth. Covering the back of the cloth with good paste, I laid the cover boards one on each side, against the lines, and folded the edges of the cloth over to the inside. I next fitted the album into this cover, the back coming



against the strip of exposed cloth between the two boards. Opening the top cover as the book lay that side up on the table, I pasted the 2x5 strip of cloth to the eggshell paper, Figure 1, then covered the whole page, both paper and cloth, except that part of the cloth strips back of the staples, with paste and allowed the cover board to fall into place. I next turned the book over and repeated the process. To avoid wrinkles in the eggshell lining paper, the covers were kept slightly open for a little while, then closed and placed under a weight to dry.

These albums of mine contained from twelve to thirty-six pages, two prints to the page. To me, their superiority lies in this: The prints are not pasted in, scrapbook fashion, but they are like the pictures in any other book, directly on the page. There is no chance for the prints to become unmounted, the edges of the book are close so that no dust can find its way in, and it is compact. My own book has an occasional page carrying four prints and several pages not of my own making.

What to do with my films so as to have them in some order and shape so that I could get at particular ones without hunting through the pile, was the next question. Of course, I knew there were containers offered and that I could buy one of these film albums for a dollar. U-hu, and thereby enrich the supply

dealer, although I think I do enough of that as it is. But I do not care for that; I like to make my own things and work out my own ideas. It is a downright pleasure to do so; and then, too, it relaxes my mind from its regular work so that I can keep young and grow fat, as I am doing.

This is what I did. I got some 3¾x6½ envelopes and sawed three equally spaced notches, three-sixteenths of an inch deep, in the bottom edge of the bunch. Then I placed a broom-straw, the same length as the envelope, on the inside of each against these saw cuts. Next I took three pieces of tow string, frayed their ends and rolled to a point with paste on my fingers. Two pieces of cardboard were cut 4x6¾ for backs, and with an awl these were perforated with three holes, one-quarter inch from the sides and corresponding in spacing to the notches in the envelopes. One-quarter inch in from each of these I made another hole that enables the end of the strings to pass back on the inside of the cover boards, see Figure 2.

Next I threaded the strings through the notches in the envelopes, behind the broom-straws, and then through two pieces of writing paper cut 4x6½ one-quarter inch from one of their edges corresponding to the notches, one of these being threaded on each side of the bunch of envelopes. Lastly I threaded the ends of the strings through the boards, beginning from what is to be the outside of the cover, drawing them as tight as possible, then put some paste on the strings and pounded them flat with a hammer over the face of a flatiron, when the book began to assume shape. The quarter-inch flap of writing paper was pasted to the back of the envelopes, and, taking a 5½x7½ piece of binder's cloth, a doubled strip of heavy paper was folded, as shown in Figure 3, and pasted lengthwise down its middle ready for the whole surface to receive a coat of paste.

This done, the back of the "book" was placed down on the strip of paper, the boards laid on the edges of the cloth, the latter rubbed into contact and its ends folded over and down on the inside of the boards. By slightly bending back the corners of the boards, the cloth can be slipped behind the envelopes, as shown in Figure 4, without much difficulty. Cut two 3x7½ pieces of tough paper like the CAMERA CRAFT wrappers and paste them on the outer exposed part of the boards, letting them lap over and cover the edges of the cloth, fold their edges to the inside of the boards, and then paste the writing paper fly-leaf to the inside of each cover.

Each of these envelopes holds ten films. The broom-straw in the back of each separates them at the binding so that the book does not bulge when filled with negatives. The pictures in my print album are all consecutively numbered, and the films, numbered to correspond, are filed in the same order. The titles are indexed on a couple of fly-leaves; or extra leaves might be inserted for that purpose. The films may be located by referring to either the index in the print album or the index in the film book. I write the title or subjects of each of the ten films on the front of each containing envelope. This film book is very satisfactory to me and costs but a trifle; in fact, I think I could earn a fair wage making them at a dollar apiece. Best of all, I have the satisfaction of having made it.

How To Make Lantern Slides

By Wallace S. Allen

With Illustrations by the Author

In the preparation of this modest monograph, it shall be the writer's endeavor to record simply those most salient deductions which can be drawn from his own experience as a lantern slide worker. They are submitted for the consideration of the thoughtful novice, who, with hopeful anticipation, looks forward to the monthly appearance of CAMERA CRAFT for help and advice.

Good technique can only be attained through the study and intelligent application of certain elementary and underlying principles, combined with a knowledge of the limitations imposed by equipment and sensitive plates. Obviously, except in skilled hands, a lantern slide is merely a reversed replica of the negative from which it was made, one that almost automatically acquires the latter's characteristics. To this sometimes fatal facility the beginner may attribute his failures, for with what seems vindictive fidelity, the slide refuses to discriminate between the virtues and defects of the negative. To the latter, therefore, it is clearly evident, the worker's skill should be devoted, with added assurance that the traditional ounce of precaution, when introduced at this stage, will be well worth a pound of cure in final operations.

A common cause of ill success is under-exposure in making the original negative; and this, to some extent, may be ascribed to the too common practice of making short, instantaneous exposures. The trouble may be minimized by the use of an exposure meter or the adoption of one of the numerous exposure

A DENVER SUNSET—Hammer Ortho Non-Halation plate, three times Cooke Iso screen, stop f-22, one-half second exposure. Hammer's pyro-metol developer used in tray.

systems, any of which are invaluable to accurate work. Correct exposure upon a properly lighted subject, when combined with either time and temperature or the factorial system of development, leaves but little necessity for the exercise of exceptional skill; in fact, leaves little opportunity for future difficulties to appear.

Definition, detail and contrast are indispensable qualities required in the negative intended for slide making. Critical definition demands careful focusing; and this last, when done on a ground glass, is made easier and more certain by the little magnifier known as a "linen tester" and sold for a nominal sum. Stopping down to small apertures, f-16 or f-22, when the subject permits, improves definition with ordinary lenses; and, to the betterment of the results, renders time exposures and the use of a tripod imperative. This good practice further results in increased depth of field, rendering focus less uncertain to the roll-film user, minimizing the danger of blurred foregrounds or other near objects, which are an abomination and unpardonable defects in lantern slides.

Detail, generally, may be said to result from full exposure, as it is usually deficient in under-exposed negatives, though it is susceptible to the same influences which affect contrast. Any rational method of development that gives sufficient density and contrast should yield an abundance of printable detail in a fully exposed negative, where the contrast of the subject does not exceed the latitude of the plate. Sunsets, firesides and night scenes, for example, are in this exceptionally contrasty class.

Contrast, to which quality the slide will owe much of its crispness and "snap," is due to a combination of factors, each of which, to a variable extent, may be used in modification of the others, thus affording a valuable means of control. Contrasty lighting, abnormal contrast in the subject, under-exposure, the use of color-sensitive plates with suitable filters, and concentrated or very cold developing solutions, all tend to give contrast. Opposite conditions cause flatness or a lack of contrast. As illustrations, landscapes are best made when the sun is shining and fairly low, as snappy detail and contrast will result, while the abnormal contrast presented by a group of white statuary amidst its usual surroundings should be reduced by making the exposure in a very soft and diffused light. Orthochromatic plates, such as the Hammer Orthochromatic Non-Halation, the Cramer Isochromatic and the Wratten & Wainwright Panchromatic, used in conjunction with proper screens, are a practical necessity in the rendering of clouds, sunsets and other highly colored subjects in monotone, though their use is advisable at all times. The manufacturers of these plates furnish most interesting and instructive little booklets, descriptive of their use.

Last, but not least, the strength and temperature of the developer, and the period of time in which the negative is subjected to its action, may be so altered as to greatly modify the influence of preceding factors. Negatives which give brilliant prints on papers like Professional Cyko will produce slides of most desirable quality, although, if for any reason expedient, both density and contrast may be somewhat increased to compensate for the transparency of the slide and the absorption of light by the screen.

THE SKY AT EVENING—About twenty minutes after sundown. Cramer Instantaneous Iso plate, Autochrome filter, stop f-16, two seconds exposure. Hammer's pyro-metol developer used in tray.

ARCHER LAKE, DENVER—COPYRIGHTED 1914 By W. S. ALLEN
Wratten & Wainwright Panchromatic plate, three times screen, stop f-22, one-half second exposure, Eastman's three and one-half minutes developer used in tank.

Assuming that we now have a finished negative at hand, the two usual methods of transferring the image to the slide may be given consideration. One may copy same size, enlarge or reduce the image of the original negative by means of an ordinary camera, provided it has bellows extension of at least double the focal length of the lens; or one can use one of the special fixed-focus copying cameras which are expressly designed for the purpose. The chief value of the first method lies in the fact that it enables users of cameras which are smaller or larger than the 3¼x4¼, either to enlarge or reduce the image of the original negative and so make it fit the largest or 2¾x3 opening of a standard lantern slide mat. These last, the full size mats, have well-rounded corners that cover what would otherwise be cut off by the four and one-half inch circle of the standard condenser used in the lantern. The fixed-focus camera is a practical and inexpensive device that is very convenient for the worker who intends to make slides from large negatives of but one size.

The writer, having occasion, at rare intervals, to make slides from both vest pocket and 5x7 negatives, employs apparatus that, while somewhat of a makeshift character, gives good results. A 5x7 Century camera fitted with a seven-inch Protar lens and having twenty-two inch bellows draw, forms the main part of the equipment. When used for making slides from small negatives, camera and stereopticon are placed on a table facing each other and with their lenses in line. The projection lens is then removed, the small negative placed in the slide carrier, centered on the condenser, and the light turned on. The surface of the condenser not occupied by the negative should be covered by an opaque cardboard frame fitted into the slide carrier. A kit holding the slide plate is used in the 5x7 plate holder; and, after focusing and stopping well down, the exposure is made and the slide developed as usual. Readers attempting to enlarge from film negatives in this way are cautioned to first mount the film between two clean pieces of glass in order to protect it from the heat of the condensers.

Where there is a lack of artificial illumination of sufficient area to properly illuminate large negatives, slides can be made by reduction, using the same camera and daylight. Discarding the stereopticon used in the other plan, a hole, the size of the negative, is cut in the bottom of an ordinary box of suitable size and the negative fitted therein. The camera is then placed in front of the open side, so that the negative is centered with the camera lens, and a large focusing cloth placed over the intervening space between the camera front and the open top of the box as the latter lies on its side. So arranged, all light reaching the lens must come through the negative. Extraneous light simply fogs the slide and degrades the image. A piece of dull finished white cardboard, well lighted from a window, is placed at an angle of about forty-five degrees, a short distance, say a foot or more, upright on the table in front of the negative, to make the illumination more even. The other method of making slides, and the one usually practiced, seems much easier. It requires the predetermination of one or two factors, that is, the size plate to be used and the focal length of lens, which, when once decided upon, are settled permanently.

The writer's favorite field equipment is a 3¼x4¼ camera of the landscape type, fitted with a five-inch anastigmat lens. It may be here remarked, in passing, that while a five-inch lens does not give good perspective in landscape work on this size of plate used for contact prints, this defect is not noticeable when its work is projected, many times enlarged, upon the screen. Distortion resulting when the lens is used for other than landscape work is caused by working too close to the subject, and may be avoided by making a smaller image. It has the advantage of covering a comparatively wide angle of view, and this can be further increased by the use of an auxiliary portrait or wide-angle lens.

BERKELEY LAKE, DENVER—Hammer Ortho Non-Halation plate, three times Cooke Iso screen, stop f-22, one-half second exposure. Hammer's pyro-metol developer used in tray.

A penciled outline of the largest size mat opening is drawn on the ground glass, and when focusing, this serves to show exactly not only the limitations of the mat, but the general arrangement of the subject as it will appear when projected. The space within this outline is divided into nine smaller spaces by drawing two vertical and two horizontal lines equidistant across it, such division aiding greatly in arranging the composition. It may be well to mention that the worker who desires to excel as a projectionist should work with the result upon the screen given chief consideration. There are some subjects within the range and control of the slide worker that can be projected with good results, but which, however, cannot be successfully reproduced by his fellow worker, the print maker.

Printing of the slide by contact is best done in a heavy professional frame in order that contact may be as close as possible and thereby preserve the detail and definition of the negative. The back of the frame should be covered with a pad of black felt to reduce to the minimum the halation due to reflected light

when a white pad is used. Authorities differ as to methods of exposing the slide in contact printing. Some advocate exposing at a fixed distance from a light of a definite intensity, varying the time to meet the requirements of different negatives. Others believe in keeping the time constant and varying the distance between the light and the printing frame. In his own case the writer has, as a principal dark-room illuminant, in the center of the room and about a foot from the ceiling, a two hundred and fifty candle nitrogen lamp with a sixteen-inch reflector. Exposures are made by placing the printing frame face up on the floor directly under the light, which is then switched on by means of a double knife switch conveniently located on the wall. Lack of space precludes a more detailed discussion of the factors which have been pointed out as of special interest to lantern slide workers, but they are treated, both individually and exhaustively, in numerous manuals and books on photography, easily obtainable through one's dealer.

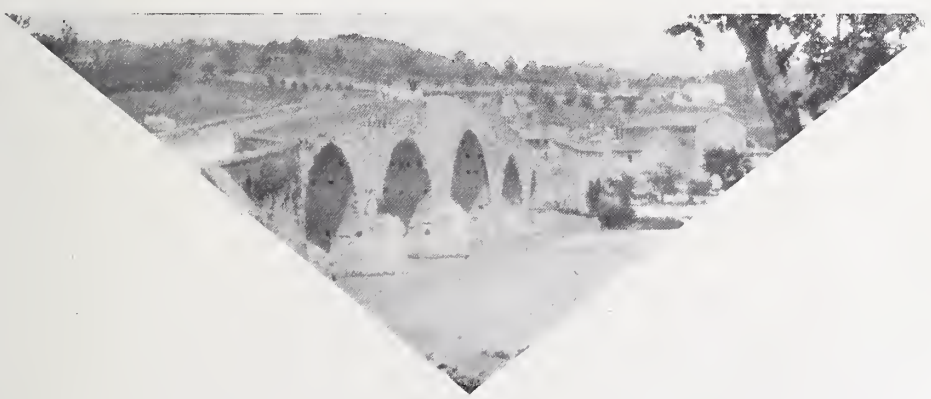
The number of available developing agents, each possessing individual characteristics, together with the differences of opinion regarding their relative merits, has resulted in countless formulas, all of which cause no little confusion in the mind of the novice. Ready prepared or concentrated developers, such as Eastman's pyro tank powders and Rytol or Rodinal, are advised, both for convenience in use and certainty of results. The last two mentioned, when obtainable, may be used for any developing purpose, and, in the writer's opinion, give exceptionally fine results in making slides. To those who prefer to make up their own developers, the two-solution metol-pyro formula for negatives, found on page thirty-five of "Hammer's Little Book," can be warmly recommended. It has most excellent keeping qualities; and, used in tank or tray, is very satisfactory for not only Hammer plates, but for other makes upon which it has been tried. Use a factor of from twelve to fourteen when developing by the factorial system. The hydroquinone lantern-slide developer, which is printed on page forty-two of "Cramer's Manual," is a good and economical developer for slides. All developers should be made up with pure water, and when instructions are followed explicitly, will usually keep almost indefinitely in stock form, particularly if kept in full and tightly stoppered brown bottles or otherwise protected from the action of light. An acid fixing bath should be used for the negative; and, when used for the slide, renders a clearing solution unnecessary. Plates should be well rinsed before fixed.

Over-confidence in the dark-room lamp is the unsuspected cause of many flat or fogged negatives, and needless exposure to its rays should be avoided, its safety being merely relative. In printing slides, the latitude of the emulsion should not be carelessly abused. Make both exposure and development as nearly correct as possible, bearing in mind that cover glass will have to be bought if poor slides are not kept and cleaned for that purpose.

Extreme care is necessary to keep both negative and slide free from floating dust before exposure, when handling in the dark-room. Dust ruins many an otherwise fine slide, owing to the resultant pinholes and black spots. A broad camel's-hair brush will be found a useful dark-room accessory for slowly brush-

BUSCH GARDENS, Pasadena—Eastman Roll film, Cooke three times screen, stop f-22, one-half second exposure.

ing off plates after sharply tapping on bench or table, to dislodge any small particles of glass which may have adhered when being cut. Plates should be handled by their edges, and the fingers never allowed to touch the dry emulsion. In drying, stand the plates in a place free from dust and so that they will drain off at a corner, allowing them to remain undisturbed until dry. Fresh plates, fresh solutions, clean trays, tanks and hands are all essential to good work. The habit of leaving workroom and utensils ready for instant use is both advocated and practiced by the writer. And finally, a systematic record of the details of every operation, following exposure, kept at hand, in compact form, for ready reference, will eliminate many failures, by the facility it affords for comparison.



PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

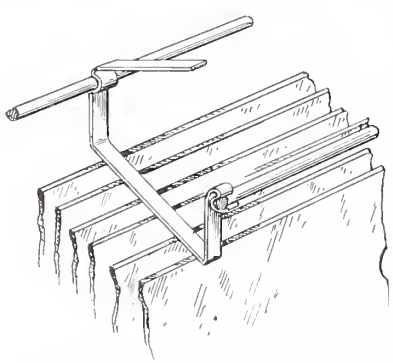
TONING BROMIDES WITH PLATINUM: An old-time formula, one recommended by E. Vogel, is as follows:

Potassium platino chloride	15	grains
Distilled water	32	ounces
Hydrochloric acid	2½	drams

Float the print on the above for twenty minutes, wash and remove to a fifteen per cent solution of copper chloride. If, by this operation, vigor and depth of tone are reduced, redevelop with ferrous oxalate. The method yields warm tones.—F. G. H., Delaware.

TO KEEP PRINTS FROM CURLING: Large muslin frames take up too much room for the home worker, blotter books are not quite satisfactory if one has a big batch of prints and cards to dry, and the glycerine formula mentioned by W. B. H., Minnesota, in the February CAMERA CRAFT may not suit all workers, so I will venture to give my own method. Take a piece of muslin five or more yards long, and lay it out on the floor if no bench is available, placing newspapers beneath. Put the prints, face down, on this, and they will dry quite satisfactorily. This plan affords all the advantages of the usual muslin-covered frames, while permitting one to roll up the cloth and put it out of sight in a drawer when not in use.—Reverend P. W. W., Wisconsin.

A TANK UTILITY: A couple of years ago I purchased a 4x5 non-reversible, brass developing tank. I soon found that the negatives developed in this tank were considerably denser at the end which was next to the bottom of the tank.



To correct this I bent a strip of brass, about one-thirty-second inch thick, three-eighths inch wide and four and one-half inches in length, into such a shape that its ends could be sprung in between the top or handle-like bars of the plate rack, the center coming down and across the plates to keep them from falling out when the rack was inverted. The sketch herewith shows its form. After the plates are placed in the rack, in the dark-room, this little utility may easily be sprung into position, the rack lowered in the tank and operated as usual. However, after about one-half of the developing time has elapsed, the rack may be reversed in the tank, in the dark-room. Working in this way, evenly developed plates have always resulted for me.—M. R. R., Wisconsin.

LANTERN LENS FOCAL LENGTH: To determine the focal length of a lantern lens, insert a slide with a circular mask having an opening three inches in diameter and focus it upon the screen. Then multiply the distance, in feet, between the slide and the screen, by three, and divide the result by the diameter, in feet, of the disk on the screen. The result will be the focal length, in inches, of the lens in the lantern.—A. S. O., Florida.

WATERPROOF CEMENT FOR GLASS: Dissolve fifty grains of gelatine in about an ounce of water and then add ten or more grains of acid chromate of potassium. If this solution, freshly made, is applied to the two edges of a break, the pieces bound together for a few hours, meanwhile being placed where the sunlight can act upon it, a perfect mend will result. The fracture will be hardly noticeable, and even hot water will have no effect upon the cement.—E. T. R., Washington.

SQUEEGEE PLATES: From the planing mill I purchased enough fourteen-inch lumber to cut the desired number of 14x20 pieces to accommodate my squeegee plates, specifying a white wood that they advised me had little or no tendency to warp when subjected to a wetting. I then cut a small diagonal piece from each corner, placed the plates thereon, bent down their corners and drove a small nail through them and into the sawed-off corners of the boards. The plates are a trifle heavier and they take up a little more room, but they are pleasanter to handle and work with, they are not getting bent and showing unsightly streaks on the prints, and they are going to last much longer.—D. F. G., New Hampshire.

THE POSITION OF THE HEAD: In making bust pictures, the average photographer places the head of each sitter in just about the same relative position in the picture space, with the result that there is a lack of truth that the sitter and her friends recognize but fail to locate. It all lies in this mistaken idea of getting the heads all in the same place. In my own work I always indicate on the record whether the sitter is short, medium or tall and then trim the prints accordingly. If the subject is below medium height, the head is placed just a trifle lower than usual, and if tall, just a little higher. One must be careful not to overdo the matter, as the short person will resent being made to appear so and the tall one will also be displeased, although not to the same extent.—F. G. H., Delaware.

A LOW TRIPOD: We have heard so much about the value of the direct vision view finder as compelling the use of the camera at the eye level, that we have begun to think that a high view point was the only proper thing. If one wishes to get a picture of a dog playing on the grass, or something of that kind, a picture of some individual thing, the high view point is nearly always the best. But, with a landscape made up of foreground, middle distance and distance, the low view point is the best. Look over a collection of your own prints and observe what a number show no small part of the picture space taken up with a foreground that is uninteresting or nearly so. Had the camera been placed low all this would have been changed. The expanse that adds little or nothing to

the picture would have been foreshortened and made unobjectionable.—E. D. C., Vermont.

TREATMENT FOR BLISTERS: Some years ago we were troubled not a little with blisters on our collodion and gelatine prints. While I have not had an opportunity, rather, have had no occasion to try it on our present-day developing papers, the following was a certain remedy for blisters in the old days:

Water	3 pints
Formalin	5 ounces
Sulphite of soda	1 ounce

The prints were first soaked in this solution for about five minutes, then passed through several changes of water, and lastly toned and fixed in the usual manner.—W. E. R., Tennessee.

PEN AND INK SKETCHES: In addition to my own spoiled film I secure not a little of the man who does developing for the drug store on the corner. These I clean off by soaking in a hot solution of soda followed by scrubbing with a stiff brush or scraping with a knife. If any show inclination to wrinkle I go over them with a warm iron. These I lay over the selected photographs; and, with a pen and drawing ink, copy off such outline and detail as I require, perhaps leaving out some parts and adding a little here and there. From this I make a negative by contact, using a lantern slide plate, and from this last make any number of prints desired, even making enlarged sketches by the ordinary process of bromide enlarging. As I am in no way an artist with the pen or brush and the results secured by the above method are quite pleasing, I feel sure that others will have no difficulty in securing the same amount of satisfaction as I have in following this method of producing "something different" through the medium of their photographic equipment and knowledge.—F. G. H. Delaware.

INCREASING GRADATION: Recently I have been following out a suggestion given me by a chance acquaintance made on a photographic outing. The results are so gratifying that I wish to pass the hint along for the benefit of others who may like to try the same method. As I develop my plates up to about what I think is right, I do not at once place them in the fixing bath but transfer them to a tray of clear water with a cover placed over it. Here they are allowed to remain for an hour or more. As soon as I can get around to it I am going to equip myself with a new upright fixing bath, so that this can be done with more ease. This soaking seems to allow development to proceed somewhat but there is little or no increase of density. The gain all seems to be in the direction of gradation or added detail. To make sure that the benefit derived was not imaginary I took the trouble to make two exposures exactly alike, develop them in the same tray and then place one directly in the hypo while giving the other this intervening soaking. Prints from the resultant negatives convinced me that the method advised gave a quality that was not secured when working in the usual way.—T. G. B., New Mexico.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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Our New Department

Under the heading: "The Cameraman's Page", a new department makes its appearance in this issue. Mr. Hall, who has kindly accepted the responsibility of conducting this new department, is, we can assure our readers, capable of helping them over any of the rough places they may encounter in their motion picture work. He has had no small amount of practical experience in all branches of the work, but, he has also most successfully coached and instructed a number who are today recognized as expert cameramen. However, the department will, as Mr. Hall explains, rely to a great extent upon the co-operation of the readers who, we trust, will come forward with their own contributions in the way of helpful hints and suggestions. In addition, new goods will be given mention as they come to his notice. Being located in Los Angeles, the largest centre of motion picture activity in the country, Mr. Hall enjoys exceptional opportunities, and in these his readers will of course share to the full. Correspondence addressed to him, care of this office, will be forwarded promptly; and, as his other work permits, be given the earliest possible attention.

Our Farm Paper Cover Competition

From time to time inquiries as to where a market can be found for prints such as the writers enclosed, reach our desk The frequency with which these come to hand lead us to believe that no small number of our readers are desirous of making the results of their photographic efforts return them some profit, but they all overlook the fact that their pictures must be more than mere examples of photography if a market is to be found. There is a demand for results produced by photography, perhaps for works that is not strictly pictorial in the full sense of the word, but it must fill the requirements of those who constitute the market. Aside from the strictly commercial field, the one in which the buyer gives the photographer a definite order to photograph certain subjects, usually a matter of personal arrangement, the market is not a very wide one. However, there is a demand for good pictures suitable for cover illustrations for farm publications, and what is more to the point, subjects in great variety are acceptable and always available. We have repeatedly offered suggestions as to the kind of work most likely to meet this demand, we have shown examples of pictures used, and we have furnished criticisms, both by the editor of a farm paper and by ourselves, of pictures sent in for our last competition. Furthermore, we have repeatedly offered to furnish individual criticism, by letter, of prints our readers might wish to submit for that purpose. We do not want our readers to compete in order to win the small prize we may offer when it is decided to close this competition, we want them to compete in order to take advantage of the opportunity we offer

to find a market for their pictures. And still further, we realize fully that only a small part of our readers are desirous of selling their work solely through a mercenary aim. As we have said before, the selling of a picture means, to the average amateur, not the addition of a certain sum to the contents of his purse, but the assurance that his work has a value, that it measures up with the production of endeavor along other lines by having a quality that makes it desirable in the eyes of others. And this last brings us directly to the point, the necessity of properly directed endeavor. The producer in other lines is governed by the requirements of his prospective customers. He does not build or create according to his own fancy, convenience, and most easily accessible material, and then expect a demand. The photographer, or at least the one that writes us as to a market for his miscellaneous prints, overlooks this obviously necessary procedure that producers along other lines so consistently follow. Why not try and gather, from what we have printed, some idea of what is wanted by the farm papers, and then let us help you to fit your production thereto.

Goods That Are Not Advertised

In a recent letter a correspondent suggests that the reason we did not approve of a certain proposed purchase was that the article in question was not advertised in our pages. He is badly mistaken. Advertising does not make any article better than a like one not advertised, either in fact or in our advice as to a purchase. Not all good photographic material is advertised, either in our pages or elsewhere, but the fact remains that it does not pay to advertise a product that does not compare favorably with those that are finding an ever increased market through a combination of merit and advertising .

The Eleventh Annual Wanamaker Exhibition

The catalogue of the Eleventh Annual Exhibition of photographs held at John Wanamaker's, Philadelphia, is quite a bulky little booklet, showing that over fourteen hundred prints were hung, the work of over three hundred individual exhibitors. The first prize of one hundred dollars went to Charles B. Keeler, Cedar Rapids, Iowa; the second of fifty dollars to Charles O. Haimovitz, Philadelphia, and the third of twenty-five dollars to Williamina Parrish, St. Louis. In addition, there were five prizes of ten dollars each and ten of five dollars, with not a few honorable mentions. Speaking of the competition, Mr. Stieglitz, one of the judges, said: "The judges had no great difficulty in selecting the prize pictures from the fourteen hundred photographs submitted to them, in spite of the fact that they were unusually strict this year, and that the standard required for acceptance for mentioning was higher. Imitation paintings and manipulated prints were unanimously condemned by the judges." We regret finding so few of our California or Pacific Coast workers represented in this exhibition, and trust that this will not be the case another year.

Not that one portion of a picture should be highly elaborated and the rest vague, but the simplification of the unimportant strengthens that which is interesting.—Antony Guest.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Studio Vignetter

A complaint which is sometimes made in connection with the use of the studio vignetter, when a white card is used, is veil over the negative. In nine cases out of ten when this fault occurs, it will be found that it is not confined to the light vignetting card only, but is manifested also with those of medium tint, and is evidenced even with a black card, though in an opposite direction, by a thinner image of the negative. If careful observation shows that this is the case, the cause of the trouble must be looked for in the short distance between the lens and the vignetting card. With a short-focus lens this trouble will seldom occur; but with foci above ten or twelve inches the card needs to be considerably nearer the sitter, especially in the case of head and shoulder negatives, when the actual focal length, or rather extension, is somewhat increased. A serrated edge to the vignetting card will tend to aggravate the evil, and is seldom an advantage. In these circumstances a convenient method of adjusting matters satisfactorily is to get an assistant to hold a white vignetting card at a considerable distance and gradually to bring it nearer to the camera. Meanwhile the operator observes the effect upon the focusing screen, a chair placed before a rather dark background serving well enough as a subject. When the desired degree of diffusion to the edge of the card has been obtained on the ground glass, a note should be made of the position of the vignetter and this distance adopted in regular work.—*British Journal of Photography.*

Detecting Faked Photographs

Faked or otherwise deceptive photographs are frequently used for fraudulent and criminal purposes. The expert photographic witness, giving reasons for or against the admission of certain prints as evidence, has become quite a commonplace—even so long ago as the Tichborne days his importance was acknowledged. A few brief remarks on possible methods of detecting unfairly made photographs may not be without interest.

Attempted deception takes the form of showing or suggesting what was not really there at the alleged time, or of asserting the absence of persons or things actually present. Retouching, combination printing, knife-work, and chemical treatment have all been dishonestly employed, as well as various devices usually classified under the name of "trick" photography. Wide-angle lenses have been pressed into service to exaggerate the size of near objects or to increase the apparent distance of those further off; contrast filters have been utilized to secure misleading records, and so on. Wide-angle effects are almost self-evident to a trained eye, and can often be demonstrated by comparing the measurements of standard objects in the picture, such as bricks, lamp-posts, etc., and thereby calculating distances. Suppression or undue emphasis by the aid of a light-filter is, however, not easy to deal with, unless the object or scene is still accessible or can be reconstructed.

A suspected print is first closely examined with a good hand lens, a reading-glass magnifying about three diameters being very suitable. For more critical inspection of small details, the Coddington lenses sold for stamp collectors are excellent; or, better still, one of the achromatic hand magnifiers employed by engravers may be used. These means alone often suffice to betray additions or deletions by pencil, brush, or knife, as well as the less perfect examples of combination printing or dodging. Contrary to what might be expected, one of the most difficult things to detect, when well done, is the introduction of a figure or object cut carefully from a print, pasted on a second print or ground, and re-photographed. Provided the lighting, depth of printing, and tonality of both figure and ground agree, and proper precautions have been taken against a "cut-out" effect,

the hand lens may fail to expose the imposition. The keener eye of the camera must then be requisitioned. A good size direct enlargement is made, which is almost certain to betray any ordinary faking, by bringing to light obvious traces of outlines, disagreements of texture, or pencil and brush marks where junctions have been concealed.

A specially made long-extension camera is necessary, taking at least 10x12 plates, with carriers for smaller sizes. The degree of enlargement may be from three to six diameters, and when the whole of a print has to be copied, it will, of course, often have to be taken in sections on different negatives. The lens should be a first-class anastigmat. If only one lens can be purchased, eight and one-half inches is perhaps the most generally useful focus. This will require an extension of five feet for enlarging up to six diameters.

Ordinary plates of fine grain, having a speed of from fifty to one hundred H. & D., are best. A magnifier should be used for focusing. Exposure and development must be for detail rather than contrast, save in some exceptional cases. The prints are best made on glossy bromide or printing-out paper, printed on the light side, and preferably squeegeed, though sometimes gaslight paper will give extra detail. Examination of the negative itself ought not to be neglected, as this may show something lost in the print. Bromide enlargements are useful if nothing better is available, but cannot compete in detail with direct enlargements. When the part under suspicion is very small, photomicrography may be of service.

Faked work on negative or print is at best but a clumsy expedient, and practically sure of discovery when technical skill is at the service of justice. Far more deadly are genuine photographs in which the subject itself has been faked. Thus a few years ago a criminal just escaped arrest by producing a photograph showing him in his sitting-room at home, far away from the scene of his offense, at the time the latter was perpetrated, as proved by a tear-off date calendar on the wall and by the clock. It was not till too late, when oceans intervened and all trace was lost, that the photograph was clearly shown to have been taken before the event, the calendar being made to give false witness.

The time factor, indeed, is often of value. If a faked photograph is alleged to have been taken at a certain hour, it may be quite practicable to disprove this by the evidence of cast shadows; and, as a recent American case has demonstrated, it is even feasible to check the actual date by similar means, under favorable circumstances.

Weather conditions are a common pitfall to the faker, and, in the absence of other indications, should always be verified. As an instance, a photograph brought forward in a building dispute showed rain on the pavement, whereas the meteorological records proved that none had fallen in the district for over a week. In another case a picture taken immediately after sunset included a new moon, which should have been full to tally with the date claimed.

Secondary objects or accessories, seemingly of no consequence, may lead to exposure. To give an example, so altering the story as to avoid any clue to persons or places, important issues depended on disproving a lady's asserted presence at a certain watering-place on a given date. An amateur snapshot, apparently genuine, showed her standing just inside the pier entrance; newspaper contents bills hung on the promenade railing served to fix the date. There could be no dispute as to likeness or identity, but the photograph was taken at a quiet time when no one else was about, and the turnstile attendant had no recollection of the lady. Her opponents, having serious reasons for doubt, submitted a copy of the print to an expert, who, after verifying the bona-fides of the photograph itself, tried to discover a slip in what may be called the "staging" of the picture. The weather conditions, however, tallied with the meteorological reports, the news bills were not chronologically wrong, nor did anything else appear dubious. Either the picture simply told the truth, or very great care had been taken over details.

As a last resort, the expert critically examined all the secondary objects. Far out at sea a fishing-smack was visible. The usual white letters and number on its dark sail identified it as belonging to a seaport eight miles away. "As far as I can see," said the expert to his clients, "your only chance is to find out the crew of this smack."

This was done. The captain and his hands all declared positively that they had not been anywhere near the place shown in the photograph on the date claimed, and it transpired

that, in fact, the vessel was then laid up for repairs!

Those newspaper contents bills must either have been saved up or else specially printed. The necessary data might have been obtained from contemporary illustrations in pictorial papers, for a goodly percentage of press photographs show newsboys plying their work, and the bills would be easy to imitate. The only risk was that a passer-by might notice their out-of-dateness, which explains why a quiet time was chosen. But the clever brain of deception forgot the silent witness of the smack number.—A. Lockett in *British Journal of Photography.*

The Stanhope Lens

The Stanhope lens as described in the text-books is a solid cylinder of glass convex at both ends, while the Stanhope lens as sold in the shops is usually a solid cylinder, or sometimes a cube, of glass with one end convex and the other plane. We are not clear why the article as sold does not agree with the text-book description; but in any case the shop variety of Stanhope is an excellent magnifier with sundry good points. If the plane surface is put on an object such as a postage stamp, it will be seen that we get a strongly magnified image quite free from any trace of distortion. For this reason the Stanhope is a favorite instrument with stamp collectors, while it is apparent that the same properties give it considerable value as a focusing magnifier. Distortion is introduced if the object examined is not touching the plane surface; hence, if we put the magnifier against the smooth side of a ground-glass screen, a little distortion will be introduced, the amount depending on the thickness of the screen. The defect could be got over by reducing the depth of the magnifier by an amount equal to the screen thickness. This can readily be done; but for screen plates, with which we use the screen reversed, no alteration is required. We have a glass with a Stanhope cemented to the ground surface, which was previously ruled with pencil lines, and this forms a very useful screen and magnifier all in one. For other purposes we can grind the face of the Stanhope and mount it so that the ground face comes in the focusing plane. In this case the magnifier itself forms the focusing screen as well. It is curious that such a useful lens should be so little used, and this reminder may perhaps induce photographers to give it a trial.—*British Journal of Photography.*

Vignette Enlargements

A somewhat similar trouble is met with in making vignetted enlargements. If a card with too small a hole is chosen, it has to be held too close to the lens—too close, that is, for the reason that in addition to the actual band of diffusion, a diffused shadow is cast over the greater part of the image except perhaps right in the center, with the result that considerable increase of exposure is required. Assuming, however, that the position of the studio vignetter proves not to be the cause of the trouble, investigation may show that another indirect effect lies at the root of the matter, namely, projection of part of the image of the strongly illuminated card onto the internal folds of the bellows, or onto a moving shutter flap from either of which light is reflected by it onto the plate. Such action is more likely to be the cause in bust portraits, and, assuming that the interior parts of the camera are properly dead-blacked, can be prevented by using a card of dark color with just a narrow band of white, say, one and one-half inches wide at the top edge, for the vignetting effect. A possible but less likely cause of fog would be a weak place in the camera front through which light is strongly reflected by a large white card placed near to it.—*British Journal of Photography.*

The Retouching Desk

One must indeed be a good retoucher to be able to turn out satisfactory work at a badly designed, uncomfortable desk, yet this is what many retouchers are trying to do with detriment to their eyesight and temper as well as to the quality of their work, which, although it may be good, would be better under more favorable conditions. No amount of polish or finish in the construction of a desk will make up for inadequate size or want of rigidity, the roughest woodwork being all that is necessary if it fits the worker. The most satisfactory arrangement we have seen was made to acommodate three retouchers. It consisted of one long sloping desk running right across a wide window, with openings for the negatives with suitable reflectors fixed behind. Above this board a

black curtain extended from the ceiling to the top of the desk totally excluding all unwanted daylight, while smaller curtains were provided to be drawn between each worker as desired. At night incandescent electric lamps were dropped behind the openings, and diffusers of glass or paper according to the fancy of each retoucher fixed behind the negatives. There was plenty of elbow room and plenty of fresh air, and it was found that a much greater quantity of work was got through than in the old-fashioned way of packing the retouchers with their portable desks into odd corners. We are sure that it pays to devote a special room to retouching, especially as the walls can be used for negative racks, or even for stocks of mounts and other material.—*British Journal of Photography.*

Printing In Sun and Shade

Johannes Gaedicke in the *Photographische Hochenblatt* describes some experiments as to the relative merits of sun and shade printing. A sensitometer scale was printed on two pieces of paper to the same mark, No. 11—one in the sun in nine seconds, the other in the shade in thirty minutes. They appeared alike. They were toned in a borax gold bath, where the shade printing toned a little faster. After fixing the latter had a slightly redder tone. The sun printing showed slightly better gradation in the deep shadows, with no trace of bronzing, which was slightly apparent in the shade printing. The general result was in favor of direct sun printing.

Opaque Blacks

There appears to be considerable scope for a microscopic mounter who can hit upon some plan which will give better results than the professionally mounted slides of diatoms and foraminifera. Many suggestions were made in the course of the discussion which followed Mr. McIntosh's paper. One was to use a very black paper employed in some of the Kodak specialties, and treat it, before the application of the object, with the minutest amount of the material known as "gloy," which practically filled up the interstices and corrugations of the paper surface. T. E. Freshwater said that Quekett used as a varnish sealing wax dissolved in alcohol, and spoke of it as affording a particularly fine surface for mounting foraminifera; apparently it had no grain whatever and was absolutely opaque. Another worker, however, had found black sealing wax to be too shiny. One can never, as Chapman Jones said, obtain a black reflecting no light at all. The finest black will always scatter three or at least two per cent of the light falling upon it; the precise amount of scatter varies a little with the direction of the light, and if there is grain, with the direction of the grain. —*Amateur Photography.*

Opaques For Blocking Out

Ready-made opaques are too expensive for general use. I herewith give one or two formulas for opaques used, based on some information gathered in America. These mixtures have been found to work and keep admirably, and are to be preferred to any others that have been tried. They keep well either in liquid form or in cakes. Should it be desired to make a quantity and keep in cake form, simply mix to stiff paste, spread out in the lids off shallow tins, such as small biscuit tins, and store away to dry.

To make up a most useful opaque suitable for above use, take:

Red lead	1 part
Chrome yellow	1 part
Red ochre	1 part

All obtainable from any color merchant.

These colors being in powder form, can be mixed together dry in an old cup or basin preferably. Next add a small quantity of boiling water, sufficient to bring to a stiff paste, taking care to stir well all the time. Having done this, add a small quantity of ordinary office gum. Work this well into the solution. Providing a good quality of gum is used, there is no need to add any preservatives whatever. This mixture when used will be found to be more opaque than Indian ink.

A more dense material suitable for blocking out large portions of negatives can be made of the following:

Yellow ochre	1 part
Chrome yellow	1 part
Red ochre	1 part
Black, either ivory or vegetable	½ part

Mix and grind well together, and when thoroughly mixed add hot water till dissolved. Follow by a generous amount of gum as previously described. If kept in a liquid state in a wide-mouth bottle, it will always be found very useful.—B. F. Welch in *British Journal of Photography.*

THE CAMERAMAN'S PAGE

Edited by Hal G. Hall, whose consideration of new material of merit can be secured.

Introduction

This department will be conducted as an exchange of ideas pertaining to cinematography; and, to be completely successful, it must have the co-operation of cameramen. Practical time-saving "stunts", chemical "dope", methods of securing light effects, and the like, will be welcomed and credit given each contributor. In addition, consideration will be given inquiries concerning difficulties arising in motion picture work.

This department is not, in any sense, intended to encourage photographers in general to take up motion picture work. The present need is not for more cameramen. However, we believe that every good worker, now making a livelihood by motion picture photography, must have at least one "stunt" that he could pass on to the benefit of his fellows without detriment to himself. We also believe that there are few cameramen who are so good that some one, somewhere, could not help them with hints or suggestions. We believe such co-operation can be made beneficial to the profession as a whole. Do your share by sending in suggestions, queries, or complaints; bread, bouquets and brickbats all are solicited for this department.

Manufacturers of a new or special motion picture apparatus, chemicals, and supplies, are invited to submit samples and literature for consideration in this department.

Speed and Distance

There seems to be some confusion of ideas as to relationship of speed and distance. Of course, good motion picture photography does not demand that every individual exposure be free from blur or movement, as does speed work in the making of "stills". As to shutter speeds, that is "yet different again", but assuming a normal shutter opening of one hundred and twenty degrees, or one-third, or any other particular opening, there is a speed-and-distance limit. As in most cases the turning speed is fixed within narrow limits, the thing that matters is the approximate relation of necessary distance to speed, in case the subject's speed is beyond control; or, the control of subject's speed when a certain distance between camera and subject must be maintained in order to get proper size of image.

Let us suppose a runner moves seven feet a second, moving at right angles to the axis of the lens. At approximately one hundred and twelve feet from the camera the field of view, with a two-inch lens, is about fifty-six feet, and in one second the runner moves one-eighth of the distance across the field of view. At fifty-six feet from camera the field of view is about twenty-eight feet, and on the screen the runner will move one-fourth the distance across the picture. Similarly, at twenty-eight feet from camera the runner passes across the field in one-half second, at fourteen feet entirely across field in one second, and at seven feet he requires but one-half second in which to cross picture. It is obvious,—and painfully so on the screen, that eight individual images, projected one-eighth the width of screen apart, can not show smooth and well defined action,—nor can twice that number.

From the above extreme case it will be seen that if a given speed of action at a certain distance produces a trace of perceptible blur or that jerkiness due to rapid movement, in order to avoid any increase of this defect, the action must be only half as fast at half the distance; for, with the same speed the blur and jerkiness will be twice as bad, in all probability meaning failure. In case the speed of action cannot be controlled, and we know that a certain speed can be handled without unsatisfactory blur and jerkiness at a certain distance, we know that twice the speed of action can also be handled with the same camera speed at twice

the distance, providing, of course, that the reduced size of image would not be unsatisfactory. The use of a different focal length lens is equivalent to working at a different distance, as regards size of image and rate of movement. For example: the use of a six-inch lens at a given distance is equivalent to using one of two inches focus at three times the distance, although the angle or perspective and the depth of focus is different.

At a given camera distance approximately one-half more speed of subject is permissible if the movement is at an angle of forty-five degrees than if at right angles to the axis of the lens, while double the speed may be permissible when movement is directly toward or away from camera.

While no definite rule can be formulated, and one can hardly say that such and such conditions will produce good results, or that a ten per cent variation therefrom will mean failure, it is well to bear in mind that general relationship between speed and distance. The most frequent violations of the speed limit occur in too quick entrances and exits near the camera and in moments of too rapid business by characters shown half length or close up.

Better Photography, Too

In *Hearst's* for July, Isaac F. Marcosson, writing interestingly on "Finance and the Film", analyzes the reasons that made easy money possible in the early days of the film industry, he mentions: "* * * the cost of filming was very low, * * * the price per foot was from fifty cents to one dollar, * * * big stars and big writers had not left their original fields, * * * distribution was comparatively cheap and the movie public had not been educated." Commenting on the trend of the motion picture industry, Mr. Marcosson prophecies: "But the money of the future is not to be made on the same basis as the money of the past, the percentage of profits will be narrower because the cost of production is greater, and with growing *quality*, competition, it will have a tendency to increase."

The trend toward better pictures is unabated, but elaborate sets and big names no longer hold full sway with the moviegoing public. Good stories and good photography will of necessity be "among those present" in the successful films of the not-far distant future. Not long ago thousands were spent in production for dollars spent for "scenarios", and almost anything in the way of photography would, as they expressed it, "get by". Where a maximum of twenty-five dollars a reel was recently paid for "scenarios", as high as a thousand a reel has recently been paid for a film story, while some cameramen's salaries are now higher than that of the average director of a few years ago. The time is past when cooks and elevator boys can profitably fill in spare moments by striking off a few "scenarios".

The successful film of tomorrow will not be filled with interiors, all made under the uniform flat lighting of either diffusers or arcs almost surrounding the sets. The successful cameraman of tomorrow will have a thorough knowledge of lighting and light effects. The mere crank-turner will have been relegated to "innocuous desuetude", whatever that is, along with overworked trick photography, unnecessary visions, meaningless dissolves, and the twenty-five dollar "scenario".

Think it over.

Dissolves

Under the heading "Motion Picture Photography", in the July issue of *The Camera*, Mr. Dench comments on the superiority of dissolves over "old abrupt method". While useful enough at times, the dissolve from one scene to another is often used without any occasion whatever. The dissolve is often used needlessly, merely because it is on the camera, much as are the sirens on some automobiles. Excepting occasionally in visions, cut-backs or thoughts, we see no more reason why the scenes of a film story should be run together, than the sentences and paragraphs of a magazine story should be "dissolved". When one scene, or sentence, is completed, why not "cut it" before proceeding with the next?

Masking a Lens

From the same writer we learn that a mask, or mat, should be "one by three-quarters of an inch" and attached to "the lens of the camera". Remarkable! As a matter of fact, the mat must be a considerable distance from the lens in order to produce an image. A mat of the suggested size would be satisfactory placed immediately in front of the film

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Photographing Against the Sun

The average amateur, early in his experience, had a number of films or plates spoiled because he had pointed the camera in the direction of the sun, and that of course settled the matter for him. But like a lot of other things, done in one way means disaster while rightly performed, making exposures directly towards the sun is one means of securing some very pleasing pictures. All that one needs to do is to watch for a moment when the clouds cut off the intensity of the light. Let them go out some evening or late afternoon when the sun is low enough to come within the plate along with the landscape view below, and when there are clouds in evidence, and then make a few snaps. Wait until a cloud passes over the face of the sun, and often this will not mean much waiting, and then make a quick exposure with a small stop. About a twenty-fifth of a second at f:32 will be a good way to experiment. If the cloud arrangement is a good one and the landscape below is harmonious and pleasing, a good picture will result. It must be remembered that the cloud effect and the streamers of light breaking through above are the main elements of the picture and therefore not much is required of the landscape itself. One will, in fact, practically be making sunset views. And this reminds me of the efforts a friend made some years ago to determine just how he could make a sunset picture look like a sunrise one. He practiced early rising for several weeks in pursuit of sunrise pictures, only to find that his results all looked about the same as the ones secured when the sun was setting. Talking it over we turned to an old issue and showed him where some writer had explained that, with considerable space above where the sun was supposed to be, the mental impression was that the orb of day was rising; while, with the sun nearer the top of the picture space and some little room below the effect was that of the downward travel of that luminary. Measuring up some of his own pictures by this rule he found that there really was quite a little difference in the effect produced upon the mind by the different locations of the sun.

Transferring Prints To Cloth

An Illinois subscriber wants to know if there is any practical method of transferring prints to cloth. In the *"British Journal Photographic Almanac, 1912,"* is given a method of transferring prints on printing-out paper to cloth and this might work with our present day developing paper if no hardener is used in the fixing bath. Our correspondent can try it and if it fails, have recourse to the paper recommended. The print is preferably made with a white margin and the cloth, which may be silk, linen or sateen, should be washed thoroughly to remove any dressing it may contain, and then dried and ironed. The cloth is then pinned by its four corners to an ironing board and ironed with a hot iron to make it perfectly dry and warm just before placing the print in position. The print, as it comes from the last wash water, is swabbed or blotted off with some old linen and then placed face down on the cloth. A roller squeegee is run over, a sheet of blotter just barely moistened with glycerine is placed on top, with a sheet of dry blotter on top of that. Then, go over the whole with a hot iron, doing this thoroughly and with some pressure, and then, without any hesitation, remove the blotters, seize the two opposite corners of the paper and peel it away from the emulsion which should have become incorporated with the fabric. I have never heard of the results of this method but it seems worthy of trial.

That "Camera Wants" Department

I wonder why the amateur readers do not use the "Camera Wants" department in this magazine oftener than they do. There must be quite a number who have graduated from

3958—Orrin Dudley, San Anselmo, Cal.
Class 2.

CHANGES OF ADDRESS

2780—V. A. Ulrich, care B. E. Calkins Co., Butte, Mont.
(Was Spokane, Wash.)

4009—H. J. Gergen, Escondido, Cal.
(Was San Bernardino, Cal.)

WITHDRAWAL

4089—A. G. Paget, Honolulu, T. H.
For lack of time.

OUR BOOK SHELVES

California Camera Club

Following the regular monthly meeting of the club on the evening of June thirteenth, a set of one hundred lantern slides made up of a selection from the work of some twenty different American and Canadian camera clubs was shown. This is the set that was sent to England over two years ago for exhibition purposes under the direction of R. Child Bailey, editor of *Photography*. The following Tuesday evening, June twentieth, a demonstration on the use of Enlarging Cyko was given by Phil B. Keeler, of the Ansco Company, and on the following Tuesday evening, W. G. Masters, of the Eastman Kodak Company, gave a demonstration on the correct manipulation of Velox paper, the prints being made on an Eastman amateur printer. Sunday, June twenty-fifth, a most enjoyable and successful outing was held at Camp Taylor, an ideal location with its famous Paper Mill Creek that not only satisfies the most exacting landscape photographer, but the trout angler as well. Friday evening, June thirteenth, the regular monthly lecture was held at Native Sons' Hall, B. R. Baumgardt, the popular lecturer, taking for his subject, Sweden and the Swedes, Their Relation to the German Empire, and showing an interesting set of slides as illustrations. June tenth there was placed on the walls of the club an exceptionally fine exhibition, composed of Ethnographic Indian Photographs, the work of Frederick Monsen, F. R. G. S., the well-known traveler and lecturer. The club's annual Yosemite outing, June tenth to eighteenth, was the most successful in its history, over four hundred members and their friends participating.

Camera Club of Detroit

At an election of officers on June nineteenth, the following were elected: Otto H. Linstead, president; Cecil H. Taylor, vice-president; Philip M. C. Armstrong, secretary-treasurer; Dr. Oscar E. Fischer and Herman Gabriel, board members at large. A program of events has been arranged, including a number of lectures, club outings and other entertainments. An open competition will be held in the fall, to be announced later.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Chas. E. Shaw and family, of Berkeley, spent the month of June in Yosemite Valley.

E. J. McCullogh had a big display of pictures in his show case, of members of Berkeley Company of the National Guard soon after they were ordered out, and made the eagle scream for a while.

H. R. Brinsmead and his better half spent the second week in June in San Francisco, attending the Eastman School while here.

H. K. Zinkian has taken a soul mate—was married in June.

Frank Bassett, of Terkelson & Henry, has added a retoucher to his family—some nice little girl.

Among the prominent photographers who attended the Eastman School were: Messrs. Lee and Nunes, of Fresno; Mr. Tucker and wife, of San Jose; Mr. Powell, of Hanford; Mrs. Freeman, of Eureka; Miss Bryan, of Marysville; Mr. Salb, of Petaluma; Mr. Reithers, of Healdsburg; Mr. and Mrs. Henline and daughter, of Klamath Falls; Mr. Schneider, of Stockton; Mr. Blanert, of Marysville; Mr. Fonda, of Redwood; Mr. Heidrich, of Monterey; Mr. Nelson, of Santa Rosa; Mr. Wohlbrucht, of New York, and Miss Olga Dahl, of this city.

George A. Dolan, of Wolff & Dolan, Probus paint manufacturers, spent his vacation in the Yosemite Valley.

Mrs. Muriel Cuthbert is managing the Elite Studio in Oakland, while her husband has charge of the Elite Studio in San Francisco. Both places are doing well.

George Biddle, the Camera Doctor, recently found a bag of gold behind a radiator—one of the fourteen in the *Bulletin* Contest. (How careless!)

Mickey Lamoigne is going back to Fresno. Says his moustache grows better down there. He was with the Owl Drug Company in San Francisco and will take charge of the Fresno store when opened.

Kilborn-Pratt

The marriage of Miss Gertrude Pratt and Frank Kilborn took place Saturday, June seventeenth, at the Soldiers' Home in Marshalltown, Chaplain Pratt, the bride's father, officiating. Mr. and Mrs. Kilborn returned to Cedar Rapids and went directly to the Kilborn residence at 1634 Washington Avenue. The bride is a sister of Mrs. Burt Jackson and has been a teacher in the public schools in this city for a number of years. Mr. Kilborn is president of the Kilborn Photo Paper Company.—*Cedar Rapids Gazette.*

Mr. Lutes Is Successor

On the death of Mr. Slocum of the Slocum Photo Supply Company, 958 Fifth Street, San Diego, California, some weeks ago, Harold E. Lutes, who has been manager for a number of years, purchased his interests. Mr. Lutes will conduct the business in his own name and as he is well and favorably known to a wide circle of photographers, we feel quite sure he will make the business a rapidly growing one. He has already increased his monthly order for copies of CAMERA CRAFT fifty per cent over that of the old firm.

Steadman's Unit Actinometer Ready

Not a few of our readers will be pleased to learn that, after unexpected and unavoidable delays, Mr. Steadman is now supplied with a stock of his new Unit Actinometers and is filling orders as rapidly as received. We ourselves have been favored with a sample that was given immediate trial, with the result that we were more than pleased with the ease and certainty with which the correct exposure could be determined. Particularly in the case of home portraiture, where, by reason of the widely varying light conditions, the finding of the correct exposure is important, the new meter worked admirably. The direction accompanying the meter are full and complete, the list of plate and film speeds

covers over two hundred different kinds, and there are also simple little cards showing the relative exposures for different stops of the F, the U. S. and the simple three-stop system of the Brownie class of cameras, as well as one for moving picture cameras. As Mr. Steadman says: "It is a new thing to think of brightness of surfaces, expanses, etc., in simple unit numbers. It is natural to think of distance, weight, etc., in such numbers, because we have been taught from childhood to do so." With his unit method, once this measurement of brightness is grasped by the mind, the determination of correct exposure becomes as easy and accurate as the determination of the cost of a number of articles at a given price each. See the advertisement on another page or write for particulars, addressing F. M. Steadman, Box D, Concord, New Hampshire.

A New Bargain List

We have just received a copy of "Bargain List No. 20," just published by the New York Camera Exchange, 109 Fulton Street, New York. This is a very extensive catalogue of some exceptional bargains in a wide range of cameras, lenses and the like, and we would advise any of our readers interested in the securing of some excellent equipment at a moderate price, to send for a copy. In addition to practically all of the popular lines, there are listed quite a number of such lenses and cameras as the average worker does not feel justified in buying new, for the reason that their use is but occasional, and articles of this character seem to be priced particularly low, perhaps for the very reason that they are not in general demand.

A New Struss Lens

To meet the demand for an inexpensive pictorial lens suitable for use with the Graflex and other various cameras of the reflecting type, the Struss Pictorial Lens is now being made in a new and improved form of mount, one which permits of its use set in, so that it closes up in the camera; or, set out when shortness of bellows extension makes additional distance from the plate necessary, as when photographing very near-by objects.

The nine-inch focal length lens is set in one and one-half inches from the front board and requires a minimum bellows extension of ten and one-half inches. The twelve-inch lens is set in the same distance and requires a minimum bellows extension of thirteen and one-half inches. When the bellows extensions, as given above, are the maximum, the lenses should be used in the forward position; and, when not in use, set in so as to close up the camera. With a relatively short bellows, an extension tube may be fitted to give the required distance between lens and plate.

In the tubes of two inches diameter, lenses of seven and eight inches focal lengths may be fitted to order, their speeds being f-4.3 and f-5, respectively. At full aperture these focal lengths give even more diffusion than the regular nine-inch lens, working at f-5.5. This is a very desirable quality, more definition being easily secured by stopping down until the required sharpness results. Prices and full particulars can be obtained from the manufacturer, Karl Struss, 5 West Thirty-first Street, New York.

Carl Ernst & Company's New Address

Carl Ernst & Company, the well known manufacturers of photographic mountings, advise us that hereafter their address will be 258 Broadway, New York City, instead of the old address on East Twenty-third Street. The new location affords many advantages over the old and this announcement of the change gives us an opportunity of calling attention to the excellent line of mounts and folders that this firm has so long been supplying to the discriminating ones in the photographic field.

Exposures In Enlarging

One of our correspondents recently wrote us relative to difficulties he had experienced in using a new enlarging apparatus. It is not necessary to go into the details but for the benefit of others it might be well to explain a point that is not generally understood. When using an enlarger that has a ground glass interposed between the light and the negative, reducing the size of the stop, other factors being the same, doubles the exposure just as it does in ordinary camera work. On the other hand, with an enlarger fitted with a condenser instead of a ground glass or other diffuser, the rule does not hold good. The condenser transmits the light in the form of a cone; and, with such an adjustment that the point or apex of this comes at the lens stop, cut-

ting down the stop may cut off only a very small portion of the light, perhaps none if large stops are being employed.

Dealing With Hard Negatives

A method of reducing contrast by treating a negative with bichromate of potash in hydrochloric acid and then redeveloping to the required point of fixation before the rest of the silver is reduced, meets with just criticism in *The British Journal of Photography*. I say just because I have repeatedly tried this method, tempted by its seeming simplicity and theoretical possibility, with almost uniform failure; a result which I believe is inherent in all partly completed chemical reactions in that they do not seem to occur uniformly, but start at some particular point from which they spread in an irregular fashion. *The British Journal of Photography* suggests the conversion of the silver image into an iodized image which, it states, will then print very softly.

Some five years ago, at the time that I published my paper on the modified Traube method of making lantern slides, I did quite a little experimental work along these lines, with the result that it was possible to obtain almost any degree of intensification with hardening or softening at will, by first iodizing the negative with a solution of ferricyanide of potassium and iodide of potassium, washing and then staining; if for a softer result, with methylene blue; and if for a hard image, with rosaniline. The unstained yellowish white image of potassium iodide is, in my experience, a little too diffused for practical work in the majority of cases.

A Barometric Print

A New York correspondent wishes directions for making a print, such as he remembers having seen described. Looking the matter up, I find the directions given as follows: Coat paper with a ten per cent solution of gelatine; and, when quite dry, float on a ten per cent solution of bichromate of potassium. The paper is again dried, this time in the dark, and then printed under a positive such as a transparency or lantern slide. Immersing this print, as it comes from the frame, in a ten per cent solution of cobalt chloride, the unexposed parts will take up the chemical, after which the print is washed for a few moments and again dried. A faint image will be seen and this will change color with changes in the humidity of the atmosphere. When the weather is damp the image will be quite indistinct, but as fair, dry weather comes on the picture will turn to a quite pleasing blue.

Wanamaker's Second Popular Exhibition

John Wanamaker, Philadelphia, announces its second popular exhibition of photographs to be held in the Wanamaker Store, Philadelphia, November first to eighteenth, entries closing October twenty-first. This exhibition is for the benefit and encouragement of the novice and beginner who might hesitate to send pictures to an exhibition where only artistic merit was considered. Vacation pictures and pictures of anything interesting will be welcome and the prizes, thirteen in number, ranging from twenty-five to three dollars, will be awarded by a committee of newspaper photographers who are practical men. Very large or very small pictures are not desired, those ranging from 5x7 to 14x17 in size, being most suitable. These should not be framed but may, if desired, be covered with glass and bound at the edges. The name and address of the exhibitor, name of lens, material, and any other information of interest should be written on the back of each picture. The Camera Store, John Wanamaker, Philadelphia, will furnish labels for these details if requested. All photographs should be carefully wrapped and addressed; Camera Store, John Wanamaker, Philadelphia, and be delivered before October twenty-first with express charges, if so sent, fully paid.

Combination Printing In Carbon

It is generally considered difficult to combine a figure and background or to insert a figure in a group when printing in carbon, but a friend who is skilled in three-color carbon showed us how simple it really is if the methods of the color worker are followed. In the first place, the two prints are made, as usual, on tissue from the same band, and cut the same way of the band, either with the length or the width of the roll. The two temporary supports should both be rigid, ordinary waxed opal for the figure, and collodionized glass for the background. Each piece of exposed tissue must be soaked before mounting at exactly the same temperature for the same time, about three-quarters of a minute at sixty degrees Fahrenheit.

They are then developed and dried as usual, and the figure transferred to the ordinary double-transfer support. After cleaning off every trace of wax with benzole, the glass bearing the background is dipped into water, and then coated with a five per cent gelatine solution. The figure print, soaked, of course, until limp, is carefully laid down upon it and lightly squeegeed. The glass is then turned over, and the prints registered by sliding one on the other. When the correct position is attained, the squeegee is again gently applied, and the whole put aside to dry. The print comes off "full gloss," but if this be objected to the collodion may be cleaned off with the usual solvent.—*British Journal of Photography.*

Dr. Bigelow Elected Scout Naturalist

The Managers of the Boy Scouts of America have elected Dr. Edward F. Bigelow, of Sound Beach, Connecticut, "Scout Naturalist". He will guide the great and growing organization of boys in their nature studies, answer questions and conduct a department entitled "On Nature's Trail" in *Boys' Life,* the official monthly publication of the Boy Scouts.

This work is not entirely new but rather a development of one of the lines of interest and helpfulness that has been carried on for a long time by Dr. Bigelow through The Agassiz Association. Dr. Bigelow has for many years taken an interest in Boy Scouts. He has answered many letters, addressed them in various places and troops have been frequent visitors at Arcadia. He has also written departments of the Scout Handbook. This new development has been undertaken on an extensive scale at a remuneration hardly covering the cost of correspondence, with not much of any allowance for traveling and other expenses that will necessarily be incurred. Dr. Bigelow is accepting so large an undertaking in the belief that it will be sustained by naturalists and philanthropists, and especially by those who recognize the tremendous importance of the educational possibilities of the great Boy Scout Movement.

A New Background

Pliable Paintings is the name under which the Seavy Company, 8 South Dearborn Street, Chicago, Illinois, brings out their latest creation in backgrounds. They announce that they have, after much study and experimenting, produced a painted background that, while retaining all the beauty of the artist's brush, is pliable. For some time past they have been receiving inquiries for a background that would stand the wear of being used for both studio and home portrait work, something other than the plain or clouded grounds offered. Experimenting along this line resulted in the developing of a process whereby any design can be produced in this pliable form. Photographers, particularly those in the smaller cities and towns, appreciate the fact that home portraiture is fast coming to that stage where the best work is demanded. They know better pictures can be secured when the subjects are posed amid the familiar surroundings of their home, where they are less self-conscious and consequently take a more natural picture. In work of this character a background of the kind described will often be found of the greatest assistance.

Illinois College of Photography

Many of the former students will regret to learn of the death of Professor W. J. Brinckley, of Milwaukee. A number of years ago Mr. Brinckley was our instructor in optics and chemistry, and of late had been connected with the Museum in Milwaukee.

Professor C. W. Fisher, principal of the colleges, has become a politician. At the spring election for members of the Board of Education of the city schools, he was elected president for the coming year. Some day he may be elected governor.

Mr. and Mrs. J. H. Scott, both former instructors at the Bissell Colleges, have, for the past few years, been making their home in Nome, Alaska. They are planning to return to the States during the summer and Mr. Scott will probably engage in business here.

As a means of advertising and boosting Peoria, Illinois, about two hundred of the business men of that place travelled by special train to a number of towns in surrounding States. The special passed through Effingham May eighteenth, and some of the motion picture class of the college made pictures of their march through the streets of the city. B. W. Post, formerly an I. C. P. student, was official photographer for the "boosters."

CAMERA WANTS

Advertisements of the above nature shown below will be inserted under this heading at the rate of fifty cents each insertion, for twenty-five words or less; each additional word, two cents extra, cash with order. Those of positions wanted inserted free. No business advertisements accepted.

10x12 GUNDLAGH Rectigraph lens, newly fitted with Iris diaphragm; list, $60.00; will sell for $25.00. N. C. H., care "Camera Craft," San Francisco, Cal.

FOR SALE 8x10 Empire State camera, quick-acting bed lock, 6 plate holders, Crown tripod No. 2, 1C Tessar lens f-4.5, 7-inch focus, in Multi Speed shutter; R. R. lens, 12-inch, in Unicum shutter; R. O. C. post-card printer, home portrait background and reflector with carriers, extra carriers for flashlight, trays, printing frames, and other accessories. All in first-class condition; will sell for less than half orlginal cost. Address W., care "Camera Craft," San Francisco, Cal.

FOR SALE Seneca No. 9, 5x7 hand camera. All adjustments that could be placed on a hand camera, and does finest grade of work. In new condition; outfit includes 10 extra plate holders, film pack adapter, set of 6 supplementary lenses. Fine 3-section tripod in leather case. Case for camera and holders. Outfit cost $78.00, sell for $35.00 cash. Also Optigraph motion picture projector and Alamo motion picture camera. Projector suitable for professional use in hall or theater, but sufficiently compact for home use. Projects rock steady and flickerless pictures. Complete outfit cost $144.00, sell for $65.00. Alamo camera in new condition, equipped with f-6 R. R. lens, cost $35.00, sell for $20.00. Write quickly to obtain any of these offers to Motion Picture Photographer, Millersburg, Pa.

WANTED 5x7 plate camera, anastigmat equipment preferred. For sale or trade, No. 1A Ansco anastigmat lens, cost $22.50 new; sell cheap. C. F. Thornton, Riddle, Ore.

FOR SALE The only ground-floor studio in the city of Watsonville; can be bought for $500. A good live coast town of 6,000 population. Wm. P. Stokes, Watsonville, Cal.

RETOUCHING WANTED First-class work guaranteed; prices reasonable. All orders given prompt attention. Edgar Butters, General Delivery, Pontlac, Mich.

WANTED A Butcher Cameo II, long bellows, 2½x3½, fitted with Compound shutter and f:4.9 or f:6 lens; film pack adapter and plate tank and extra plate holders for this camera. State price and address G. M. W., care "Camera Craft," San Francisco, Cal.

FOR SALE 4A Kodak, plates or films, 4¼x6½, 3 holders, tripod, cost $45.50, good condition, $22.50. High grade anastigmat 8x10, f:6.3 in Optimo shutter good as new, lists $85.00, sells for $45.00. 8x10 Century Portrait, 1 curtain holder, 5x7 attachment, 4 holders, Low shutter, A-1 condition, cost $50.00, yours for $25.00. Rev. R. A. Staley, Las Animas, Colo.

ASSISTANT In photo finishing to lady whose husband is always away on photographing trips; some girl will welcome this opportunity for a home, one stayed almost four years. Rich Studio, Bemidji, Minn.

MOTION PICTURE Camera and outfit, small size but using standard size film, in good usable condition. Rich Studio, Bemidji, Minn.

WANTED Good responsible all-around photographer—lady or gentleman, to run studio for a few months while present photographer is away. Want one who would be interested in buying or going in as partner if everything is O.K. later. Address Shepherd Studio, over 411 Walnut St., Des Moines, Iowa.

FOR SALE Reflex camera 4x5, focal plane shutter, film pack adapter. Low price for quick sale. Sunset Photo Co., 562 15th St., Oakland, Cal.

STUDIO FOR SALE The only ground floor, top and side light studio in Prescott, a town of 7,000, one other studio upstairs. This studio is fitted to 8x10, both indoor and outdoor view camera; modern in every respect. Owing to wife's health, will sell for one-third the price. Write for particulars at once. The Bridge Studio, 320 W. Gurley St., Prescott, Ariz.

POSITION WANTED In studio by young man, 4 years experience. Can operate, print, retouch, and do commercial work. Address H. H. Platt, Room 10, Fox-Heller Blk., San Diego, Cal.

FOR SALE Mail order Kodak developing, printing and enlarging business, Established since 1907. 2,000 active mail order customers, best of equipment, inventories over $800.00. Situated in Los Angeles, rent $30.00 per month, including light, water and heat. Doing a good business. Will sell for $600.00 cash. Address D. P. M., care "Camera Craft", San Francisco, Cal.

WANTED An experienced all-round man to go in studio as partner. Write giving references and send sample of work to Box 402, Raton, New Mex.

RETOUCHER And receptionist wanted; permanent position to right lady. Nelson Studio, Hastings, Nebr.

POSITION WANTED By assistant to good photographer. Can furnish good references, go anywhere, reasonable wages, can furnish samples of work. W. F. Prevett, 1133 W. Jackson Blvd., Chicago, Ill.

FOR SALE 8x10 Century Grand Portrait camera, lens, cabinet attachment, stand, curtain holders, Victor flash cabinet. Make offer. Clarence Cato, 21st and Santa Clara Sts., San Jose, Cal.

WANTED TO BUY A Goerz Dagor lens No. 3 or larger. Write, stating best cash price; privilege of examination. H. J. Hollowell, Lancaster, Mo.

SALE OR EXCHANGE Set of draughting instruments, cost $17.00; Folding Kodak, Traffic Manager Course, cost $75.00, all new. What have you? R. H. Henry, Box 31, Wellington, Wash.

$350.00 CASH Buys good paying studio in best town in Valley, Central California, several towns to draw from; good Kodak agency in connection. Address XX, care "Camera Craft", San Francisco, Cal.

FOR SALE Hall Diamond Mirror camera 2¼x4½, film pack, Velostigmat f:4.5 lens, focal plane shutter, first class condition, $35.00. Sent C.O.D. subject to examination. H. E. Van Valkenburg, 2051 Green St., Racine, Wis.

FOR SALE 3 tubes, Cooper-Hewitt light and two rectifiers. Richard H. Smith, Missoula, Mont.

WANTED Special Kodak 2¼x3¼ with f:4.5 lens. Must be in good condition. Address John Bendel, P. O. Box 241, San Francisco, Cal.

POSITION WANTED By young lady as retoucher and general assistant in good studio. Address Minnie Furr, Kirkwood, Ill.

CAMERA WANTS—Continued.

SACRIFICE Almost new B. & L. IC f:4.5 Tessar lens, 6 inch focus, in Iris diaphragm mount for $25.00. B. & L. arc light model Balopticon and enlarging lantern, cost $30.00 last year, for $18.00. A. C. Dallach, Wenatchee, Wash.

$600.00 CASH If taken at once, for best located, first class photo studio in Eugene. Equipped to 11x14, big north skylight, big operating room. Reason for selling sickness. Thompson Bros., 7th and Willamette, Eugene, Or.

OPERATOR Of long experience and with national reputation is open for engagement. Address K. P., care "Camera Craft", San Francisco, Cal.

FOR SALE New modern ground floor studio on the main street of city of 3500. Only studio. Two branch studios in connection in fair sized towns. Or will sell outfit and rent building. Address A. L. Lindquist, Staples, Minn.

FOR SALE If you are looking for a studio in a nice lake town of 2500 to 3000 where you can make a comfortable living, then write me. Summer months brings thousands of tourists. Will require $700.00 cash to handle deal. Balance on terms. Don't write unless you mean business. This is no run down proposition but a studio with a reputation for good work. Address "B-24", care "Camera Craft", San Francisco, Cal.

FOR SALE Only studio in town of 6000. Fairly well equipped. Low price for immediate sale. Address "J. S.", care "Camera Craft", San Francisco, Cal.

FOR SALE Do you want a good permanent home and studio combined in a fine county seat town of about 1200 and growing fast? I want to change climate and will sell at a great sacrifice a fine studio on corner of main business street, two lots 50 foot front, 9 room residence in rear facing very pleasant residence street with nice lawn shade trees and boulevard—in short, an ideal home and business. Will also include two branch studios and photo car in good towns; the whole business in large, very rich and thickly settled territory. Would sell separately. Don't answer unless you have some cash. Address 1429 N. 4th St., Mankato, Minn.

BIG SACRIFICE My ground floor studio in live southern Minnesota town. Very rich farming country with several small towns to draw from. No competition. Expenses very small. This is a fine opportunity to get a live business at a very low figure. Best of reasons for selling. Write at once to "Jack", care "Camera Craft", San Francisco, Cal.

FOR SALE Photo studio with lot and outfit. $1000 takes it; half cash, balance on time. Could sell without outfit if wanted. Located in live North Dakota town. Good territory to draw from. For particulars address Box 219, Sheyenno, N. D.

FOR SALE Photo studio in good live town of Central California, gold mining town, big payroll year round, county seat of 3500; many small towns to draw from; no competition, nearest larger town 60 miles. Established 30 years, good prices for work, newly modern equipped 6 months ago; low rent, fine location, doing a good business. This is not a run-down place but a money maker. Reason for selling, going on homestead. Price $700.00. If you do not have the cash, do not bother me as this place is too big a bargain to spend time in writing full information to those not meaning business. Address E. B., care "Camera Craft", San Francisco, Cal.

FOR SALE Only first class studio in Shasta County, thoroughly equipped including framing department; yearly business about $3500.00. Will sacrifice because of ill health. Address R. V., care "Camera Craft", San Francisco, Cal.

SALE OR EXCHANGE 5x8 Goerz Dagor lens in barrel and XL shutter for $45.00 or small film camera. H. U. Scholz, Medford, Or.

FOR RENT Fine resident brick studio. Has all conveniences. Town of 2500. Address S. J. Joy, Three Rivers, Mich.

$350.00 CASH Takes paying up-to-date studio; good portrait business at best prices; summer Kodak agency work alone will net as high as $200 a month. If interested I will give legitimate reason for selling. Address, Box 37, care "Camera Craft," San Francisco, Cal.

FOR SALE $7.50 B. & J. studio camera stand, $2.50; 6½x8½ Seneca view camera, reversible back, leather bellows, good condition, f:6.8 anastigmat lens in Wollensak shutter, first $17.50 takes it; $6 Eastman film tank, good condition, $2.50. Good Edison cylinder phonograph for anything I can use, make offer. I. C. Adams, Calistoga, Cal.

FOR SALE No. 9 Zeiss Portrait Unar lens, new cost $200, sell for $100; 5x7 hall mirror; f:4.5 lens, new condition, $65 8x10 Cooke series 5, used very little, cost $86, sell for $42.50. Jacob Wirtz, 612 West Lake St., Minneapolis, Minn.

FOR SALE 8x10 N. Y. Studio outfit complete with vignetter, cost over $60, will sell for $35; only used 3 months. Backgrounds half price, nearly new. Martinez Studio, 260 Columbus Ave., near Broadway, San Francisco, Cal.

POSITION WANTED Young man with experience in general studio work desires to connect with first-class studio where all branches of the work will be encountered and advancement is possible. References exchanged. N. H. Noll, 961 North 11th St., Reading, Pa.

FOR SALE Slightly used Filmplate Premo Special camera; velvet-lined; genuine leather carrying case; 6 plate-holders and 4 auxiliary lenses; cost new $55, will sell for $40. Write Paul Curwin, 20 Lansing Ave., Battle Creek, Mich.

SACRIFICE Almost new B. & L. 1C f:4.5 Tessar lens, 6-inch focus, in Iris diaphragm mount. B. & L. Arc light model Balopticon and enlarging lantern, cost $30 last year, for $18. A. C. Dallach, Wenatchee, Wash.

WANTED General assistant. Must be good retoucher; send samples first letter. Heyn Elite Studio, Great Falls, Mont.

FOR SALE No. 0 Graphic camera and case, $20, cost $43; like new. H. C. Mellon, 425 N. Lake Ave., Pasadena, Cal.

WANTED A Butcher Cameo II long bellows, 2½x3½ fitted with Compound shutter and f:4.9 or f:6 lens; film pack adapter and plate tank and extra plate holders for this camera. Write George M. Williams, P. O. Drawer 698, Centralia, Wash., and state price.

SPEED GRAPHIC Or Reflex wanted for cash or exchange, also Heyde photometer and interesting negatives such as waterfalls, historical disasters, etc. I have for exchange 5x7 Conley triple extension Multispeed shutter No. 1, Multispeed f:6.8 convertible anastigmat; manufacturers claim above fast enough for all speed pictures, 200 photo magazines, ten volumes Professional Photography, two volumes set Amateur Photography. Roderick Gallie, 411 West 13th St., Little Rock, Ark.

FOR SALE Voigtlander 3¼x4¼ camera, anastigmat lens f:6.8, Compound shutter, fastest speed 1/250 second; 12 plate holders and leather case for $40; outfit like new. A. Starck, 1109 N. Keeler Ave., Chicago, Ill.

WANTED At once good all-around workman, one who can retouch. Would consider lady. Have good steady position to offer and will pay good wages to right party. For full particulars address P. A. Brainerd, Havre, Montana.

CAMERA WANTS—Continued.

STUDIO AND AGENCY For sale. Well paying studio and Ansco agency in county seat town of 1,600; furnishings and stock will invoice $1,200 and everything first-class. Will sell for $1,000, no terms nor trades considered. Address H. E. G., care "Camera Craft," San Francisco, Cal.

FOR SALE Studio in S. E. part of South Dakota doing good business; summer resort town; only studio; amateur work amounts to $100 per month. Fitted to 8x10 New York outfit; $300 cash takes it. Reason for selling, have a homestead. Address "E. C.," care "Camera Craft," San Francisco, Cal.

WANTED A first-class studio; prefer a few months' job with option to buy. C. W. Koehn, R. F. D. No. 1, Box 48, Lakefield, Minn.

FOR SALE At a bargain, my studio located at Nashwauk, Minn., in a town of 3,000. No competition. One of the best towns on the Iron Range. Will sell for $3,000, partly on time if necessary. Rent $12 per month. Outfit consists of new backgrounds, posing chairs, high-grade 8x10 studio outfit with Goerz lens, extra plate holders, show case and other things. For full information address "N. S. T.," care "Camera Craft," San Francisco, Cal.

FOR RENT First-class vacant studio on fine business street in Minneapolis. Equipped with all modern conveniences. Rent reasonable. Address A. Backdahl & Co., 313 South Washington Ave., Minneapolis, Minn.

WANTED To rent or buy on terms, studio with or without outfit; no run-down dump wanted. Give full particulars, price, terms, size of building, kind of lenses, etc. Address Box 673, Ellendale, N. D.

POSITION WANTED By a steady young man for studio and view work. Can furnish references; have my own view camera, etc. Address Greg. Ballman, 1941 Tulare St., Fresno, Cal.

FOR SALE Photo Studio with lot and outfit, $1,000 takes it, half cash, balance on time. Could sell without outfit if desired. Located in a live North Dakota town. Good territory to draw from. For particulars address Box 219, Cheyenne, N. D.

FOR SALE Ground floor studio; only studio in a nice town of $1,200; good business. Reason for selling wish to retire. Rent reasonable; electric light, gas and good water system. Address F. C. Haefer, Monona, Iowa.

FOR SALE First-class, ground floor, fully equipped studio in a rich farming and manufacturing town of 7,000; large territory to draw from; good old-established business; competition desirable; low price and easy terms. For further particulars address Box 84, Marshfield, Wis.

FOR SALE As I am going out of the photographic business for other business am offering my studio for sale. Is only studio in good growing town with A-1 rich farming community in the most prosperous part of one of Wisconsin's most prosperous counties. All the business one man can possibly handle the year around. Building, lot, equipment, all go together. Will take around $850 down, balance on four years' time. This is a better proposition than ordinary. Address, Studio, Box 54, Spring Valley, Wis.

PHOTO STUDIO For sale in San Francisco, good light, equipment, low rent, doing good business, owner to leave city. Address A. K., care "Camera Craft," San Francisco, Cal.

WANTED TO BUY Or location for Kodak finishing and supplies business; small stock. Give reason for selling and lowest cash price. P. E. Welch, Box 272, Ortonville, Minn.

FOR SALE Finely appointed studio in most up-to-date city of 12,000 in the U. S.; business steadily increasing and catering to the wealthiest patrons; reputation of studio best in the state. Address Cash, care "Camera Craft," San Francisco, Cal.

FOR SALE New 11x14 dry mounting press, cost $50; 5x7 Velostigmat wide angle lens, Regno shutter cost $30. Write for prices. C. A. Baske, 1020 Church St., Ann Arbor, Mich.

GRAFLEX For sale; 5x7 revolving back Auto Graflex without lens, list $190; like new, guaranteed for $110. G. E. Biddell, 693 Mission St., San Francisco, Cal.

WANTED, MAN Who can take charge of my commercial and framing department. Heyn Elite Studio, Great Falls, Mont.

SALE or EXCHANGE Brand new No. 1 Autographic Kodak, Special Zeiss f:6.3 lens; want $35 or Icarette A, Atom B or V. P. Tenax. Ernest Grams, Michigan City, Ind.

FOR SALE 3¼x4¼ Premo C, fine condition; camera has level, 5 plate holders, film pack adapter, copying and portrait lens, ray filter and duplicator. Will sell outfit at $9.50. Phil Sager, Welshfield, Ohio.

FOR SALE My interest in successful Art, Kodak and Stationery store in good location in Los Angeles, Cal. Established 1911, doing cash business, partner's interest not for sale. Have other interests that require my entire time; will sell reasonable; investigate. Address Y, care "Camera Craft," San Francisco, Cal.

DO YOU Want a studio in the finest cotton country on the Arkansas River, at Pine Bluff, a city of 20,000, on main street? Long time lease, extra rooms pay rent. Then write to F. W. Eck, Pine Bluff, Ark., for price and full particulars.

FOR SALE Studio with up-to-date equipment located in one of California's most substantial and growing cities, Vallejo, 15,000 population. Only one other studio. Well established business with good prices. The future is assured in the government policy of battleship construction at Mare Island Navy Yard where thousands of mechanics are employed. Also the Pacific Naval Fleet affords a field of business from the officers and enlisted men. $700 cash; a bargain. Failing eyesight compels sale at a sacrifice. For full particulars address E. K. Halverson, 413 Georgia St., Vallejo, Cal.

FOR SALE New modern ground-floor studio situated on the main street of city of 3,500 population; only studio in city; two branch studios in connection in fair-sized towns. Or will sell outfit and rent building. Address A. L. Lindquist, Staples, Minn.

FOR SALE At Big Sacrifice, ground-floor studio in live Southern Minnesota town. Very rich farming country with several small towns to draw from; no competition, expenses very small. This is a fine opportunity to get a live business at a very low figure. Best of reasons for selling. Write at once to "Jack," care "Camera Craft," San Francisco, Cal.

FOR SALE Erneman Heag I 2¼x3¼ Zeiss f-6.3, Compound 1/300, 6 plate holders, list $50.00, sell for $28.00. Premo filmplate, 3¼x4¼, Collinear III, f-6.8; Acme 1/300 shutter, adapter, 3 holders, list $65.00, sell for $35.00. Imported roll-film, 3¼x4¼, Multi Speed 1/2000 shutter, Collinear III, f-6.8 lens, list $70.00, sell for $35.00. 5x7 camera, 14-inch bellows, focal plane 1/1500 shutter, 3 holders (no lens), list $50.00, sell for $15.00. All perfect. J. A. Seeke, 248 East 83d St., New York City.

G. E. BIDDELL CAMERA DOCTOR 693 MISSION STREET, Cor. THIRD SAN FRANCISCO - CALIFORNIA

Eastman Kodak Company
ROCHESTER, N. Y., *The Kodak City.*

THE NEW SIZE PICTURE

(2⅞ by 4⅞ inches)

$2\frac{7}{8} : 4\frac{7}{8} : : 3\frac{1}{4} : X$

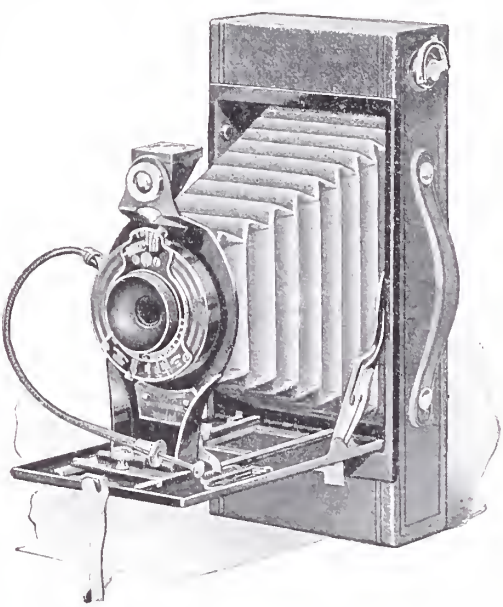
Hot weather is no time for mathematics, but if you should care to establish the value of X in the above exceedingly simple equation you would find it to be approximately $5\frac{1}{2}$.

Substituting the value of X, your equation would resolve itself into the following:

$2\frac{7}{8} : 4\frac{7}{8} : : 3\frac{1}{4} : 5\frac{1}{2}$

In other words you would have proved that the proportions of the new size picture, 2⅞ x 4⅞ are the proportions of the famous post-card shape, $3\frac{1}{4}$ x $5\frac{1}{2}$—only, of course, on a slightly smaller scale. It is a new size but a shape that the 3A Kodak made standard.

The reason that post-card size has become standard is that amateurs recognized at once that its proportions naturally emphasized the real picture. In the old 4 x 5 size, the need of trimming was almost always painfully apparent. There was either too much foreground or too much sky or too much of both. The post-card size anticipates the trim. Foreground and sky take their proper place—*the picture pervades the print.*



The Brownie that makes the new size picture—No. 2C Folding Autographic Brownie.

And what is true of the $3\frac{1}{4}$ x $5\frac{1}{2}$ picture must of necessity be true of its smaller counterpart the 2⅞ x 4⅞. In a landscape, sky or foreground is not allowed to crowd out the real picture and in a portrait, the figure is the thing. As in the post-card size—*the picture pervades the print.*

The 2⅞ x 4⅞ picture means not only a better shaped picture but a better shaped camera—the long, thin, narrow kind that the pocket takes easily.

There are two cameras — and just two—that make the new size picture, the No. 2C Folding Autographic Brownie and the No. 2C Autographic Kodak Junior.

The No. 2C Folding Autographic Brownie while strictly adhering to the Brownie principle of "simplicity first" offers a completely equipped hand camera at a nominal cost. It looks businesslike with neat metal case covered with imitation leather and in action it bears out the impression its appearance conveys. The camera is fitted with the Kodak Ball Bearing shutter with snap-shot speeds of 1 25, 1 50 and 1 100 of a second as well as time and bulb action. It is equipped

Eastman Kodak Company

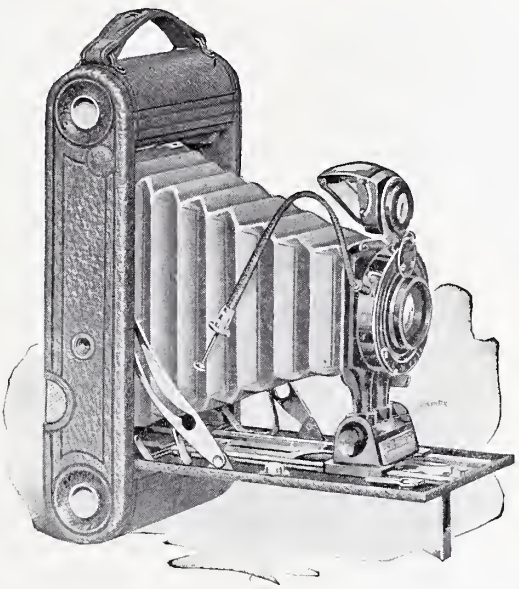
ROCHESTER, N. Y., *The Kodak City.*

with either meniscus achromatic or Rapid Rectilinear lens as desired. Autographic, of course.

The Price

No. 2C Folding Autographic Brownie, meniscus achromatic lens, and Kodak Ball Bearing shutter . .	$ 9.00
Ditto, with Rapid Rectilinear lens . .	11.00

The construction of the No. 2C Autographic Kodak Junior is distinctive. Unusally thin construction has been secured without compromise to camera appointments. They are pretty proud over the No. 2C Autographic Kodak Junior at the Kodak factories and they have a right to be. It is fitted with Kodak Ball Bearing Shutter and offers a choice of three lens equipments, meniscus achromatic, Rapid Rectilinear and Kodak Anastigmat *f.* 7.7. Thoroughly up to date, it *must* be autographic.



The Kodak that makes the new size picture—
No. 2C Autographic Kodak Jr.

The Price

No. 2C Autographic Kodak Junior, with menicus achromatic lens and Kodak Ball Bearing shutter . .	$12.00
Ditto, with Rapid Rectilinear lens	14.00
Ditto, with Kodak Anastigmat, *f.* 7.7 lens	19.00

"A photographic paper that typifies the season."

KODAK VELVET GREEN PAPER

naturally suggests itself as a most fitting medium for the out-of-door pictures.

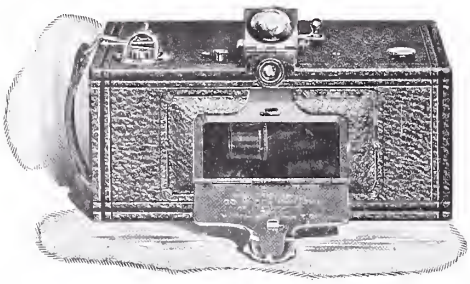
A rich green tone, true to nature, is secured by straight-ahead methods. After exposure by daylight, the manipulation of Kodak Velvet Green is similar to Velox.

EASTMAN KODAK COMPANY., ROCHESTER, N. Y.

At your dealer's.

Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*



THE PANORAM KODAKS.

If the Kodak is a camera with a liberal education, then the Panoram Kodak is a camera that "went to Tech." It's a "specialized" Kodak and one that does a very special type of work. No Kodak, alone, can properly complete the photographic equipment. The ordinary Kodak takes care of the general work in an excellent fashion but from its very construction it is helpless in the panoram field. And the panoram field is too important photographically to be disregarded.

Broad gauged pictures of the out-of-doors, the whole view with a single exposure, this is the sort of picture that can only be secured with a Panoram. Landscapes in their entirety, large outdoor groups, building groups, scenic views of every description are the exclusive property of the Panoram Kodak.

There are two Panoram Kodaks, No. 1 and No. 4. The lens of the No. 1 swings through 112 degrees, the lens of the No. 4 through 142 degrees. Both Panoram Kodaks use the regular daylight loading Eastman Film.

Prices.

No. 1 Panoram Kodak, . . .	$10.00
No. 4 Panoram Kodak, . . .	20.00

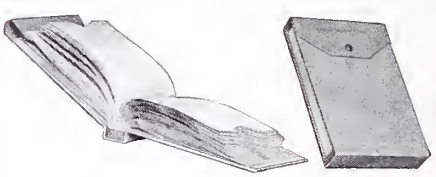
KODAK SKY FILTERS.

Frequently in photographing landscapes it is the clouds that make the picture and if we are using the regular lens equipment the resulting print is quite apt to be a disappointment. We want the landscape with the clouds—as we saw it—but in this respect, at least, our print is a failure. The fact of the matter is that the correct exposure for the sky, means an under-exposure for the foreground. With the ordinary lens equipment, we must sacrifice one to get the other.

The Kodak Sky Filter solves the problem in the simplest possible manner. The upper half of the filter is stained yellow which holds back the brightness of the sky, while the lower part being colorless, permits normal exposure for the foreground. In this way the difference of light between sky and foreground is equalized.

The Kodak Sky Filter claps on over the regular lens equipment in the same manner as does the Kodak Portrait Attachment.

The price ranges from $.50 to $1.00 according to size.

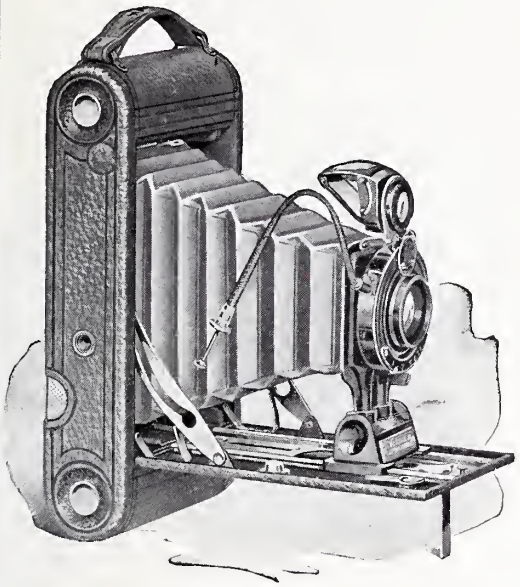


The Eastman Film Negative Album

will preserve your negatives against injury or loss and will provide the handiest kind of a reference book wherein the answer to such questions as "When did I take this?" "Where was this taken?" may be found *on the instant*. Prices range from $ .75 to $1.50 according to size.

EASTMAN KODAK CO.,
ROCHESTER, N. Y.

At your dealer's.



New even to the size of the picture it makes.

The No. 2C Autographic Kodak Junior

(picture proportions 2⅞ x 4⅞ inches)

The picture proportions, pleasing in themselves, are such as to naturally emphasize the real picture. The resulting print is filled with picture.

Compactness characteristic of any Kodak is emphasized in this new model. There's room for it—and to spare—in the ordinary pocket and yet unusually thin construction has been secured with no compromise to completeness of equipment.

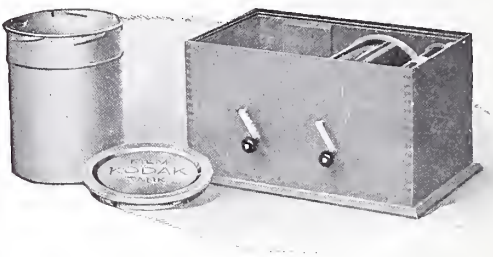
Of course it's autographic.

THE PRICE.

No. 2C Autographic Kodak Junior, with meniscus achromatic lens and Kodak Ball Bearing shutter,	$12.00
Ditto, with Rapid Rectilinear lens,	14.00
Ditto, with Kodak Anastigmat, *f*.7.7 lens,	19.00

EASTMAN KODAK COMPANY,

At your dealer's. ROCHESTER, N. Y., *The Kodak City.*



The Kodak Amateur Printer

Price, $6.00

The Kodak Film Tank

Price, $2.75 up

With the Kodak Film Tank for developing and the Kodak Amateur Printer for printing, you have an up-to-the-minute finishing department at your beck and call. And there's more than enough room for both outfits in your vacation luggage.

The experience is in the tank.
The efficiency is in the printer.

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

You can take your printing light with you—in your vest pocket—if you supply yourself with a

KODAK MAGNESIUM RIBBON HOLDER

The illumination provided by the magnesium ribbon is admirably adapted to any developing-out paper, such as Velox.

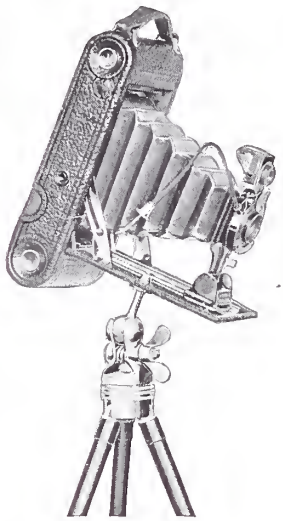
By movement of the thumb over a wooden disc in the holder, definite lengths of the ribbon may be measured out and burned—*definite lengths*, the amateur knows the quantity of his light and exposures may be exactly duplicated with ease.

THE PRICE.

Kodak Magnesium Ribbon Holder, - - - - - - - - $ .20
Alcohol Lamp, a convenience for igniting the ribbon, - .20

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.



UNIVERSAL TRIPOD HEAD

Fits any amateur tripod and allows the camera to be tilted at any desired angle—even straight upward or directly down.

Indispensable in the making of photographic nature studies and a great convenience in leveling the camera, without moving the tripod, when working over rough surfaces, inclines etc.

THE PRICE.

Universal Tripod Head, - - - - $ .75

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

At your dealer's.

A Remarkable Camera Achievement

The smaller the camera the more convenient and easier to carry. Heretofore extreme compactness in cameras has meant the sacrifice of some features, restricting the general photographic scope of the instrument.

But here is a camera, surprisingly compact and light, yet so cleverly constructed as to offer every essential feature for making the best of pictures under all conditions of amateur photography, be they easy or difficult—a camera that provides for the user the very limit of photographic efficiency.

It takes films or plates with equal facility, it has a ground glass for accurate focusing and composition, or it may be used with focusing scale. It has two tripod sockets, reversible brilliant finder with revolving mask, and special focusing lever, making it a very simple matter to set the lens in correct focus for objects at any distance.

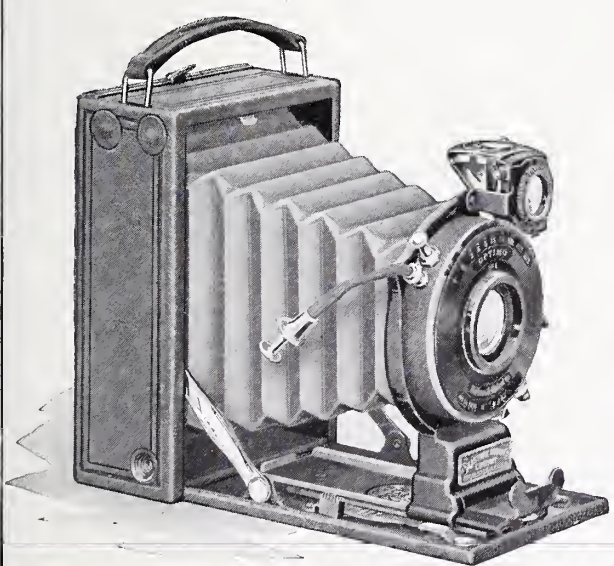
It is equipped with Optimo Shutter (highest speed 1/300 second) and a choice of the speediest anastigmat lenses including the Kodak Anastigmat *f*.6.3 and the B. & L. Ic Tessar lens, *f*.4.5.

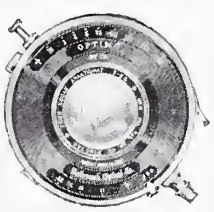
The anastigmat lenses supplied are of the right focus to insure a suitable size image, for the size of plate used, in its proper perspective. In other words, the shutter is large enough and the bellows long enough to accommodate a lens of the correct focal length, no sacrifice of these essentials being made by the use of short focus lenses, for such lenses must inevitably produce distortion if used sufficiently close to the subject to secure an image of the correct size.

For those who do not wish excessive speed, the camera is also supplied at especially attractive prices with Kodak Ball Bearing shutter and either Rapid Rectilinear or Kodak Anastigmat lens, *f*.7.7. Prices range from $15.00 to $54.00.

All these advantages are combined in the thin, smooth, handsomely finished

PREMO No. 12





Ask the dealer or write us for the new Premo catalogue. It's free.

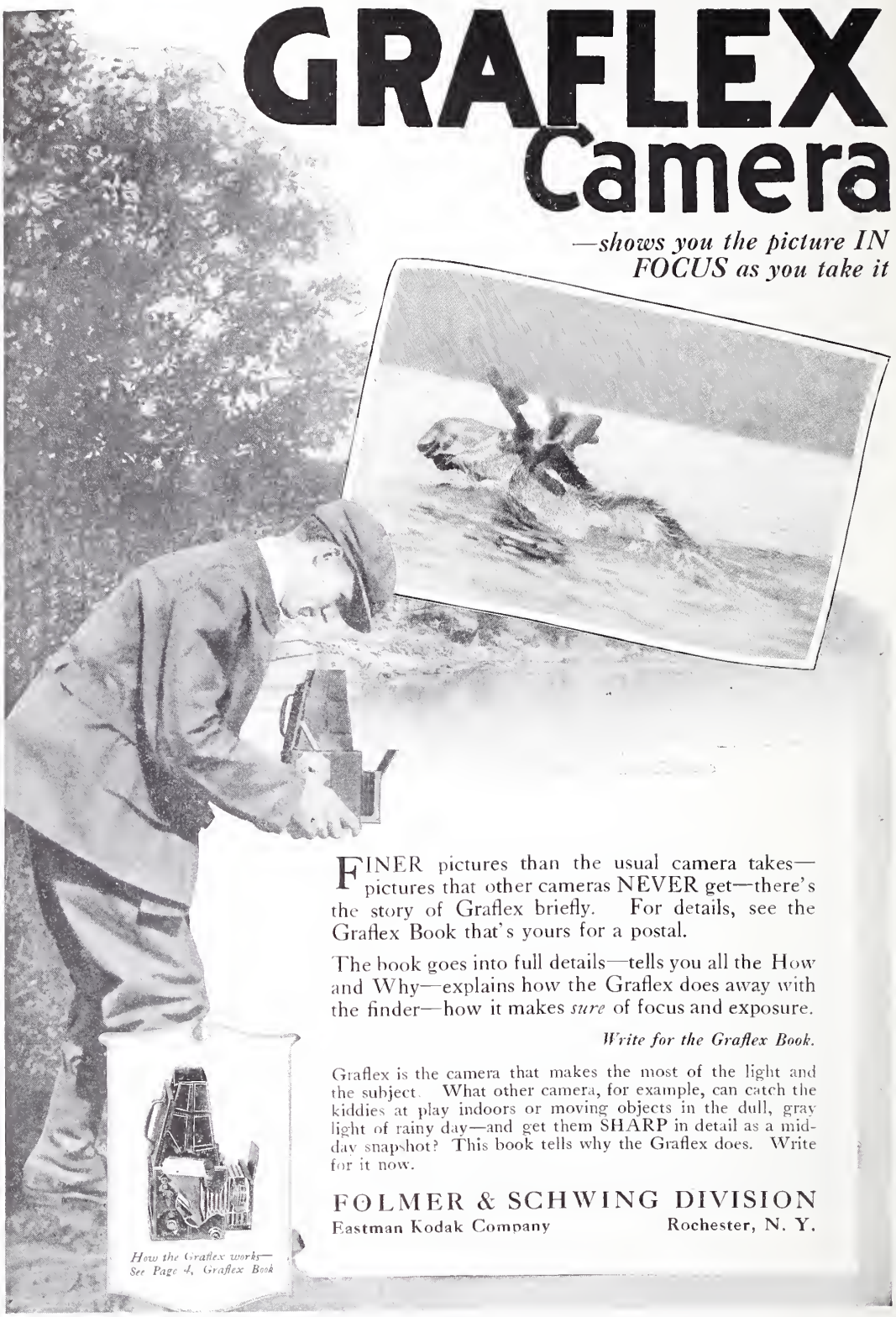
ROCHESTER
OPTICAL DIVISION

EASTMAN KODAK COMPANY

ROCHESTER, N. Y.

GRAFLEX Camera

—shows you the picture IN FOCUS as you take it



FINER pictures than the usual camera takes—pictures that other cameras NEVER get—there's the story of Graflex briefly. For details, see the Graflex Book that's yours for a postal.

The book goes into full details—tells you all the How and Why—explains how the Graflex does away with the finder—how it makes *sure* of focus and exposure.

Write for the Graflex Book.

Graflex is the camera that makes the most of the light and the subject. What other camera, for example, can catch the kiddies at play indoors or moving objects in the dull, gray light of rainy day—and get them SHARP in detail as a mid-day snapshot? This book tells why the Graflex does. Write for it now.

How the Graflex works—
See Page 4, Graflex Book

FOLMER & SCHWING DIVISION
Eastman Kodak Company Rochester, N. Y.

Plain Sailing

The discriminating photographer, the high grade amateur, the ones who appreciate the value of a lens of universal application, find their photography plain sailing because they use

Bausch and Lomb
CONVERTIBLE PROTAR
SERIES VIIa
SPEED F: 6.3 — F: 7.7

Nothing has ever displaced the VIIa for all round application to serious photographic work. Other lens types may have special advantages, but for many amateurs the VIIa solves their whole photographic problem.

VIIa Protars are doublets made up of two series VII single lenses. Sets of Protars are three or more single VII lenses, cooperating to make various doublets, all fitting the same mountings. When the single lenses are equal in focus the VIIa speed is F:6.3. When unequal, F:7, or F:7.7.

The single elements have F12.5 speed and do not need any stopping down for covering power. Protar VIIa is the only truly convertible lens on the market and we would like to tell you more about it. We suggest that you send for our photographic catalog. All dealers.

Bausch & Lomb Optical Co.

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Leading American Makers of Photographic Lenses, Microscopes, Projection Lanterns (Balopticons), Stereo Prism Binoculars and other High Grade Optical Products

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By Taking With You On Every Outing One Of The Famous

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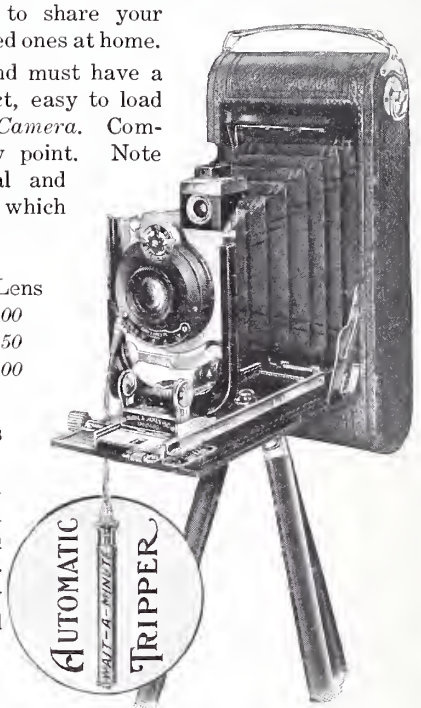

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	R. R. Lens	F7.7 Lens
No. 1A Rexo -	*$15.00*	*$20.00*
No. 3 Rexo - -	*17.50*	*22.50*
No. 3A Rexo -	*20.00*	*25.00*

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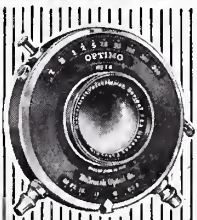

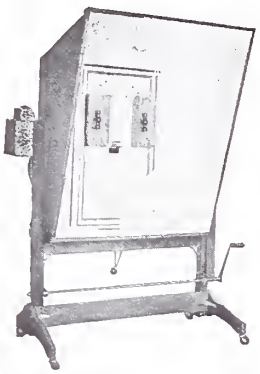

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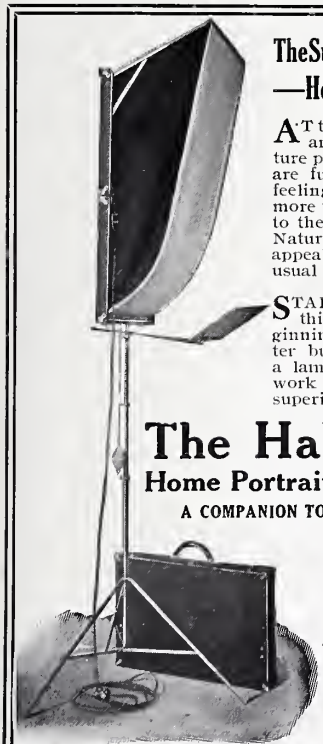

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START now and make this summer the beginning of a new and better business. Start with a lamp designed for the work and acknowledged superior to any other--with

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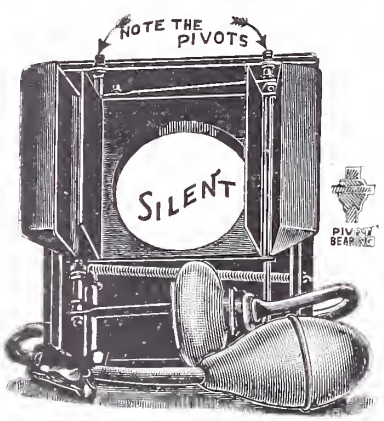

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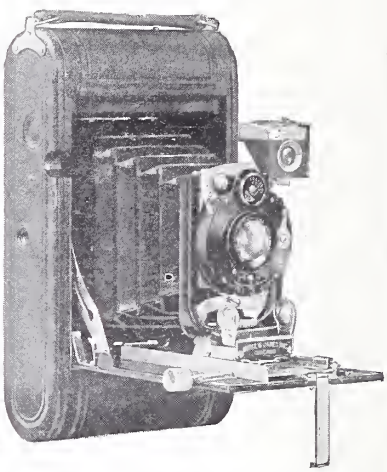

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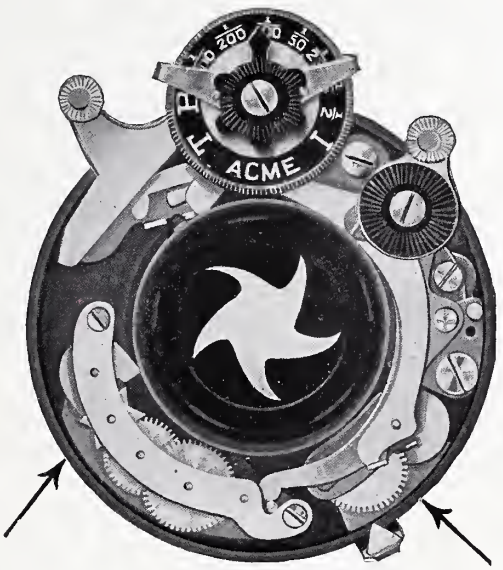

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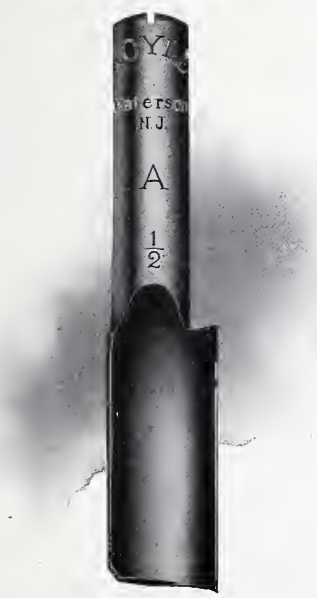

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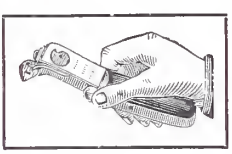

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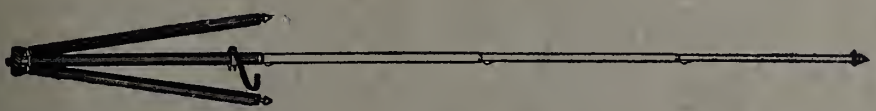

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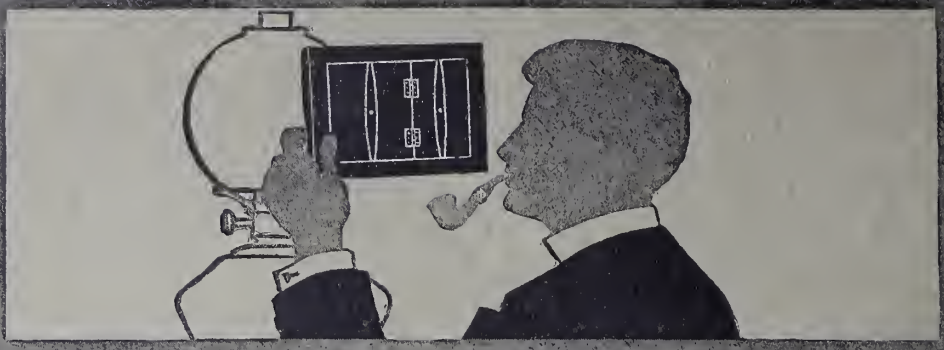

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